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ABSTRACT

This document contains 24 research presentations: "Adult Continuing Education: Whence Came Our Roots" (Judith Gwinn Adrian); "Faculty Receptivity to Participation in Continuing Education as Instructors, Facilitators, or Group Leaders" (Mary G. Bruning); "A Sound Mind in a Sound Body: The Potential to Enhance Learning in Later Life" (Alicia C. Cosky); "Getting the Horse before the Cart: Determining Continuing Education Needs of Vocational Educators" (John M. Dirkx, Michael E. Spurgin, Ruth A. Lavin, Birdie H. Holder); "Learning Theory Applied to Adults" (Trenton R. Ferro); "A Developmental Approach to Older Adult Learning Needs" (James C. Fisher); "Learning Strategies for Adult Basic Education Students" (James C. Fisher, Larry G. Martin); "Strengthening Relationships between the Missouri Valley Adult Education Association and the Seven States Comprising the Association: An Evaluation Study" (Alan S. Hackel, Mary G. Bruning); "A Graduate Adult Education Program Long-Term Impact Evaluation" (John A. Henschke); "Farm Computer Use and Learning Style" (R. Keith Iddings); "Edward Lee Thorndike: A Case Study in the Political Use of Adult Education Research" (A. Lawrence Jones); "The Group and Matriarchal Consciousness: Contributions toward an Understanding of Gender Differences in the Small, Adult, Learning Group" (Mary Ellen Kondrat); "Adult Self-Esteem Development as a Hidden Curriculum Effect of Vocational Microcomputer Training" (DaeBong Kwon); "The Use of Audio Interaction in a Telecourse Offered by Satellite: Foundations of Adult Basic Education" (Carla Lane, John Henschke); "Perceptual Interaction: A Theoretical Framework for Developing Distance Education Programs" (Rosemary Lehman); "Certainty in Adult Education Research and Practice: Farewell, Descartes" (Leon McKenzie); "Graduate Studies in Adult Education: Past Graduates' Input toward Program Renewal and Excellence" (Charles R. Oaklief); How Family Physicians Learn to Teach Residents" (Kay F. Quam); "Applied Futures Research: A Practitioner's Role" (Lorilee R. Sandmann); "Personal Transformation through Participation in Community Action: A Case Study of Six Leaders" (Sue M. Scott); "Life Transitions and Trigger Events Leading to Participation in a Volunteer Literacy Program" (James E. Snoddy, Marsha DeVergilio); "How Judges Become Expert about Contemporary Issues" (Pat Stein); "The Continuing Professional Education of Corporate Technical Professionals: Reasons, Formats, and Implications" (Susan Whitworth Tait); and "Evaluation Study of New Employee Orientation Program" (Thomas A. Watters). (KC)

Northern Illinois University
and
NLU National-Louis University

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The Ninth Annual
Midwest Research-to-Practice Conference

A Conference in Adult, Continuing, and Community Education

U.S. DEPARTMENT OF EDUCATION
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October 18-19, 1990
Holmes Student Center
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October 18, 1990

Dear Research-to-Practice Conference Participants:

It is our pleasure to welcome you to the Ninth Annual Midwest Research-to-Practice Conference in Adult, Continuing and Community Education, and to the Northern Illinois University campus.

This conference has developed its distinction and excellence by linking research and practice. The sessions you attend, as well as the others you just read in this publication, will provide opportunity for you to learn and grow.

Both the steering and local arrangements committees have worked diligently to provide general, concurrent, and invited topic sessions focused on our field, as well as to offer you opportunities to consult and interact with colleagues from throughout the Midwest. The researchers and practitioners have also worked very hard to bring us quality papers. We extend our deep appreciation to these committees, the writers and the co-hosts, as well as the cooperating groups who helped sponsor all aspects of this conference.

Enjoy the conference and NIU's unique setting.

Cordially,

Linda Kersten

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Northern Illinois University
Conference Co-Chair

Craig Mealman

Craig Mealman
National-Louis University
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MIDWEST RESEARCH–TO–PRACTICE CONFERENCE
SCHEDULE OF EVENTS

WEDNESDAY, OCTOBER 17, 1990

7:00–9:00 p.m.	Pre–Conference Reception and Registration Chandelier Room, Adams Hall Hosted by: The Illinois Adult and Continuing Education Association Local Planning Committee

THURSDAY, OCTOBER 18, 1990

8:00–9:30 a.m.	Registration -- Gallery Lounge
9:00–12:00 noon	Ongoing Registration
9:00–10:30 a.m.	Welcoming Remarks -- Capitol Room Opening Dialogue: "Linking Practice and Research: Where There Is a Will, There Is a Way," will be the theme of the opening dialogue between Shirley Bosler, counselor with the Lafayette Adult Reading Academy and practicing psychotherapist with a special interest in holistic goal attainment, and John Dirkx, Professor, Adult Continuing Education at the University of Nebraska–Lincoln. Moderator: Danny Wood, Indiana Adult Literacy Coordinator
10:30–11:00 a.m.	BREAK -- Gallery Lounge

11:00–11:50 a.m. CONCURRENT SESSIONS

THURSDAY, OCTOBER 18, 1990

Room 305	Adrian, Judith Gwinn. *ADULT/CONTINUING EDUCATION: WHENCE CAME OUR SOCIAL ROOTS?* This study addresses the relationships between issues adult education scholars address and those social issues of the contemporary times.
Room 405	Tait, Susan Whitworth. *THE CONTINUING PROFESSIONAL EDUCATION (CPE) OF CORPORATE TECHNICAL PROFESSIONALS: REASONS, FORMATS, AND IMPLICATIONS.* This research addresses the relationship of career stage and development of technical professionals to their motivation for participating in continuing professional education and to the particular learning/educational formats used.
Room 505	Henschke, John A. *A GRADUATE ADULT EDUCATION PROGRAM LONG-TERM IMPACT EVALUATION.* How does the graduate preparation of adult educators affect their practice and careers? One program has recently undertaken an evaluation study to determine answers to certain questions that could result in program modification.
Room 506	Kondrat, Mary Ellen. *THE GROUP AND MATRIARCHAL CONSCIOUSNESS: CONTRIBUTIONS TOWARD AN UNDERSTANDING OF GENDER DIFFERENCES IN THE SMALL, ADULT LEARNING GROUP.* By advancing and corroborating the thesis that an unconscious dynamic is implicated in the group experiences of men and women, the study provides a basis for a deeper understanding of the intransigence of gender related, classroom differences.
12:15–1:30 p.m.	LUNCH ON YOUR OWN

1:30–2:20 p.m. CONCURRENT SESSIONS

THURSDAY, OCTOBER 18, 1990

Room 305	Bruning, Mary G. *FACULTY RECEPTIVITY TO PARTICIPATION IN CONTINUING EDUCATION AS INSTRUCTORS, FACILITATORS, OR GROUP LEADERS.* This research identified factors or conditions which promote or hinder faculty participation and sets forth guidelines for developing mechanisms to increase involvement.
Room 405	Watters, Thomas A. *EVALUATION STUDY OF NEW EMPLOYEE ORIENTATION PROGRAM.* The success of a one–day new employee orientation was determined through summative and formative evaluation. The conceptual framework and method of evaluation is discussed.
Room 505	McKenzie, Leon. *THE END OF CERTITUDE IN ADULT EDUCATION RESEARCH AND PRACTICE: FAREWELL, DESCARTES.* This research investigates the historical–philosophical antecedents of the mind–set that expects objective, factual, certain, and pragmatic answers to research problems in adult education and discusses the origins of the research to practice issue.
Room 506	Jones, A. Lawrence. *EDWARD LEE THORNDIKE: A CASE STUDY IN THE POLITICAL USE OF ADULT EDUCATION RESEARCH.* A critical reflection of the impact of Thorndike's research in adult education practice is undertaken. How adult educators use research to support certain directions is discussed.
Capitol Room	*RESEARCH ISSUES EMERGING FROM ADULT EDUCATION AND THE WORKPLACE.* Sally Vernon, Program Director and Department Chair, Adult Education, National–Louis University.

2:30–3:20 p.m. CONCURRENT SESSIONS

THURSDAY, OCTOBER 18, 1990

Room 305	Kwon, DaeBong. *ADULT SELF–ESTEEM DEVELOPMENT AS A HIDDEN CURRICULUM EFFECT OF VOCATIONAL MICROCOMPUTER TRAINING.* This study examined whether the development of self–esteem was a by–product of a job oriented, self–paced microcomputer adult education application training program and explored what other variables might be associated with self–esteem development.
Room 405	Scott, Sue M. *PERSONAL TRANFORMATION THROUGH PARTICIPATION IN COMMUNITY ACTION: A CASE STUDY OF SIX LEADERS.* This study attempts to show how the experiences of the leadership were uniquely shaped by the program planning process of the organization and how that process, in turn, created a change in the leaders' consciousness or view of reality.
Room 505	Oaklief, Charles R. *GRADUATE STUDIES IN ADULT EDUCATION: PAST GRADUATES' INPUT TOWARD PROGRAM RENEWAL AND EXCELLENCE.* Emphasis of this evaluation of a graduate adult education program was to initiate, create, and confront, needed changes in the program. Results can have an impact on strategic planning within the College of Education, the development of an autonomous academic unit in adult and continuing education, specific course offerings, and delivery systems.
Room 506	Cosky, Alicia C. *A SOUND MIND IN A SOUND BODY: THE POTENTIAL TO ENHANCE LEARNING IN LATER LIFE.* This research investigated whether there was a relationship between participation in an exercise program and cognitive function in older women.

3:30–4:20 p.m. CONCURRENT SESSIONS

THURSDAY, OCTOBER 18, 1990

Room 305	Lehman, Rosemary. *PERCEPTUAL INTERACTION: A THEORETICAL FRAMEWORK FOR DEVELOPING DISTANCE EDUCATION PROGRAMS.* This research focuses on developing a theory which draws together three related fields (distance education/adult learning, communications/media aesthetics, and perceptual/cognitive psychology) to help planners design distance education programs.
Room 405	Fisher, James C. *A DEVELOPMENTAL APPROACH TO OLDER ADULT LEARNING NEEDS.* The research describes the tasks appropriate to five developmental periods in the older adult lifespan and the possible learning needs associated with each period.
Room 505	Sandmann, Lorilee R. *APPLIED FUTURES RESEARCH: A PRACTITIONER'S ROLE.* This inquiry examines the contributions and limitations of ethnographic futures research and other futures studies, community based approaches on addressing futures focused community planning, and action and citizen empowerment.
Room 506	Iddings, R. Keith. *FARM COMPUTER USE AND LEARNING STYLE.* This study examines how farmers learn (preferred learning style) and how they use microcomputers to manage their farms.
Capitol Room	*OPEN FORUM FOR GRADUATE STUDENT RESEARCH CONCERNS.*
4:30–6:30 p.m.	RECEPTION -- SKY ROOM Hosted by: Ted Lemen, Scott Foresman Lifelong Learning EVENING ON YOUR OWN

FRIDAY, OCTOBER 19, 1990

8:00–8:45 a.m.	**Steering Committee Breakfast Meeting -- Hunt Room**
8:00–9:30 a.m.	**Registration -- Gallery Lounge**

9:00–9:50 a.m. CONCURRENT SESSIONS

Room 305	**Stein, Pat.** ***HOW JUDGES BECOME EXPERT ABOUT CONTEMPORARY ISSUES.*** **Five major categories were discovered describing the processes involved in continuing professional education of judges.**
Room 405	**Quam, Kay F.** ***HOW FAMILY PHYSICIANS LEARN TO TEACH RESIDENTS.*** **This research investigated the processes through which family physicians learn to teach.**
Room 505	**Snoddy, James E. and DeVergilio, Marsha.** ***LIFE TRANSITIONS AND TRIGGER EVENTS LEADING TO PARTICIPATION IN A VOLUNTEER LITERACY PROGRAM.*** **Understanding this relationship may be useful in improving recruitment practices for volunteer adult literacy programs while providing motivation for better interagency cooperation that serves this population.**
Room 506	**Hackel, Alan S. and Bruning, Mary G.** ***STRENGTHENING RELATIONSHIPS BETWEEN THE MISSOURI VALLEY ADULT EDUCATION ASSOCIATION AND THE SEVEN STATES COMPRISING THE ASSOCIATION: AN EVALUATION STUDY.*** **This study identified the needs of its members so that existing programs and services could be evaluated and appropriate decisions made about future directions of the associations' activities.**

10:00–10:50 a.m. Concurrent Sessions

FRIDAY, OCTOBER 19, 1990

Room 305	Ferro, Trenton R. *LEARNING THEORY APPLIED TO ADULTS.* The purpose of this inquiry is to stimulate thinking about the use of learning theories in the processes of program development for adults. A model is developed to foster this process.
Room 405	Fisher, James C. and Martin, Larry G. *LEARNING STRATEGIES FOR ADULT BASIC EDUCATION STUDENTS.* This investigation summarizes existing learning strategy research that may provide insight into strategies employed by adult basic education students and identifies research based approaches that assist students to become aware of alternate ways of approaching learning situations.
Room 505	Dirkx, John M.; Spurgin, Michael E.; Lavin, Ruth A.; and Holder, Birdie H. *GETTING THE HORSE BEFORE THE CART: DETERMINING CONTINUING EDUCATION NEEDS OF VOCATIONAL EDUCATORS.* The purpose of this evaluation was to determine (1) the perceptions of vocational educators' needs in terms of educational and training modalities considered most helpful to their work and (2) the content and areas of practice that formal continuing education programs should be addressing.
Room 506	Lane, Carla. *THE USE OF AUDIO INTERACTION AND SELF-DIRECTED LEARNING CONTRACTS IN A TELECOURSE OFFERED BY SATELLITE: FOUNDATIONS OF ADULT BASIC EDUCATION.* This research explores two instructional methods which may affect distance education and provide alternate ways for instructors to facilitate learning.
Capitol Room	*OPEN FORUM FOR RESEARCH-TO-PRACTICE ISSUES*

11:15 a.m.–1:00 p.m.	**BUFFET LUNCHEON -- REGENCY ROOM**
Music by:	**Randall Stubbs, Pianist Masters' Student in Conducting, NIU**
Introduction of Keynote Speaker:	**Ms. Noreen Lopez, Manager Adult Education & Literacy Section Illinois State Board of Education**
Keynote Speaker:	**Richard J. Miguel, Assistant State Superintendent for Adult, Vocational and Technical Education, Illinois State Board of Education This keynote presentation will focus on the relationship between theory and practice and how institutions and individuals can establish ongoing working relationships.**
Graduate Student Research Award:	**Presented by Larry Berlin, Chair Awards Committee**
1:00 p.m.	**Conference Adjournment Linda Kersten and Craig Mealman, Conference Co-Chairs**

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ADULT CONTINUING EDUCATION: WHENCE CAME OUR ROOTS

This research explores five themes emerging from the writings of ten Depression era academic adult educators. One major theme was describing the aims for adult education. The academics focused their writing on philosophically describing the field of adult education rather than on discussion of actual programs.

The rise of science was part of the 1930s societal changes. The academics felt pressure to help adults keep abreast of scientific and technological changes. At the same time, the field of adult education was being defined within a scientific model. Thorndike's quantitative research on adult learning was routinely mentioned as critical to the formalization of the field, and was a part of defining ways the field was unique and separate, though related, to other disciplines.

And, the 1930s focus in the field was clearly social. The aim was to help people cope with and adjust to the economic crisis, the dynamic changes and the onslaught of information they were facing. Adult education was driven by these societal changes.

ADULT CONTINUING EDUCATION: WHENCE CAME OUR ROOTS

This research explores relationships between societal issues and adult education issues in the period 1929 through 1934. Issues are described as "points of discussion or debate" and have been identified through the writings of ten academics from that era:

1) *Charles Beard*; professor of history, government, politics; Columbia University, New York.
2) *Lyman Bryson*; professor of education; Teachers College, Columbia University, New York.
3) *Morse Cartwright*; director of AAAE and assistant to the president of the Carnegie Corporation, New York.
4) *Dorothy Canfield Fisher*; author and adult education writer; only woman to serve as president of AAAE; PhD from Columbia.
5) *Alvin Johnson*; director of the New School for Social Research, New York; economics professor, Teachers College.
6) *Ruth Kotinsky*; PhD, Columbia University; employed by National Councils of the YMCA and Parent Education during Depression years.
7) *Everett Dean Martin*; Director of People's Institute of New York; lectured and wrote on psychology, crowd behavior and liberal education.
8) *Harry Overstreet*; Dept. of Philosophy, College of the City of New York; lecturer: New School for Social Research.
9) *James Russell*; Dean Emeritus of Teachers College; wrote on professionalization of teachers and teaching through bridging education with the new field of psychology.
10) *Edward Thorndike*; professor of educational psychology, Teachers College.

SOCIETAL ISSUES: 1929-1934

Many U.S. adults in the late 1920s and early 1930s felt battered by the rapid-fire societal changes, changes which were often related to the expansion of science and mechanization into people's lives. (Ogburn, 1965, p.91) The rise of science brought with it the machine age, mechanical inventions, discoveries, and altered ways of thinking about the world. The societal issues of this era centered around these changes. I am comparing adult education issues to societal issues on two levels: (1) the events of the age and (2) the mind of the age.

EVENTS OF THE AGE: Machines were replacing people as the workers of the era. The combination of increased mechanization and the employment layoffs during the Depression yielded previously unknown quantities of unemployment, retraining, and leisure time. Communication systems such as radio, moving pictures, popular magazines, postal services and free rural newspaper delivery dramatically increased the amount of information people could commonly access. And, transportation improved with the expansion of railroads and airplanes, increased production of automobiles and better roads, all leading to changes in people's lifestyles.

MIND OF THE AGE: The "mind of the age" was a popular concept in the 1930s. It included the ideas, traditions, values and belief systems that were a part of people's lives; the things they had assumed were proper and appropriate.

The mind of the age was being challenged in many ways. For example, more widespread communication and more efficient transportation were thought to be undermining traditional family values and morals. Evolution confronted religious beliefs about human origins. Answers to problems were less often found by looking to the past and the experience of previous generations. Rather, answers were sought from the scientific processes and discoveries of the present. Rational, dichotomous thinking was common, so that questions were often asked in either-or terms and answered as true or false. Specialization and efficiency were the new watchwords.

ADULT EDUCATION ISSUES

The adult education issues identified through the academics' writings fit into six categories: aims, content, processes, structures, providers and learners. In each of the categories, and particularly within the aims section, the academics were normatively defining the field.

Drawing on the issues associated with the above categories, I identified 5 themes that were relevant across issues.

1) The social nature of adult education and its relationship to the problems and daily lives of adults was a major theme for these adult education writers. In writing about economic or political issues, the academic's focused on the social aspects of the topic. For example, they discussed what could be done to help unemployed workers--the social causalities of Depression cutbacks. They also focused on the relationship of adult education to people's daily lives. Kotinsky strongly advocated for an adult education that had relevance to "the problems that confront us". "If adult education is superficial to...men and women engaged in mortal struggle to survive....then it is indeed a comedy to which we are dedicating our lives".(Kotinsky, 1934, p.485)

Government funds supported vocational programs, leisure activities and parenting and other homemaking programs. There was general support for the relief programs and an assumption that, during the Depression at least, government intervention had pushed adult education forward. (Bryson, 1936, p.157)

2) A second major theme depicted the field as being driven by and following the changes taking place in society. Adult education's role was to follow societal changes and help adults adapt to those changes. Overstreet spoke for many of this group of academics saying, "...out of what society needs and what individuals need, a new educational enterprise shapes itself". (Overstreet, 1934, p.500)

Russell, referring to professional education, felt the role was to meet the needs of the learner. His reasoning was that no subject could be taught in its entirety, so the selection of which pieces to teach should be based on usefulness. "The minimum standard is the preparation that best fits the novice to make the next step [to practice] on leaving school". (Russell, 1937, p. 87)

On the other hand, this mission was troublesome to a few, particularly Martin, who advocated a liberal education for adults that would lead to creating more "civilized beings" who could consciously work toward leading change rather than adapting to changing events. He feared adult education was becoming "...not the pillar of fire and cloud that leads humanity through the wilderness, but the ambulance that follows in the rear and picks up the wounded and the broken". (Martin, 1930, p. 120-21) Kotinsky, writing as the New Deal was introduced, was also bothered that adult educators only put their efforts into helping people adjust better to the conditions of their lives to become a bit more comfortable, a bit more secure or a bit less bored. She preferred that adult educators help people gain insight into and work to alter conditions, "...to render those conditions more comfortable, more secure and less boring". (Kotinsky, 1933, p.79)

3) Science was esteemed by most of these academic adult educators and became a third theme I saw running through their writings. Its discoveries, information, inventions and quantitative methodologies were becoming deeply entrenched in people's daily lives; becoming part of the mind of the age. Early in the Depression years, many people, including the academics, looked to science to provide solutions to their problems.

The scientific method and supporting assumptions of positivist scientific thought were folded into the developing field of adult education as well. These underlying assumptions included appreciating increased efficiency; separating objects and ideas into elements or pieces; discovering truth through logical, linear processes, and knowing through observation and controlled experiments conducted by scientists who could remain objective. (Lincoln & Guba, 1985, pp. 37-38) Fisher, for example, spoke of drawing on the new, scientifically based field of psychology to find practical, logical answers for parents' questions. (Fisher, 1930, p.26) Adult education needed to align with science and technology, Bryson said. The credibility of the field was at stake. He advocated focusing on more quantitatively measurable research and relying less on qualitatively identified ideas. (Bryson, 1936, p.139) He also discussed how new technology, like the radio, could be effectively used in educational situations. He reflected the feelings of many saying, "I am one of those who accept industrialism and commerce and the ways of life made necessary and possible by them. I believe that modern industrial civilization offers opportunities on every level of experience that far outweigh the attendant evil". (Bryson, 1932, p. 237) Russell focused his career on finding ways to make teaching more efficient and hired Thorndike to discover truths through quantitative research methods about teaching and learning that would streamline these processes. There were a few, however, like Beard, who asked the question, why insist that rules such as those governing hard science must serve as pattern for understanding the social sciences--including adult education? (Beard, 1936, p.7)

4) The academics approached defining the field from a philosophical rather than a practical perspective. The majority of their discussions were about the ways adult education was relevant to societal issues, rather than about ways to accomplish their goals through practical applications such as program

designs or teaching strategies. In their writings they commented more on philosophically defining the aims of adult education than they did on defining all the other categories combined--content, processes, structures, providers and learners. Ogburn felt this was a typical progression in the development of a new "scientific" field, which was the model the field was emulating. "Oftentimes the process of development of a young science, as time goes on, is one from theory to verification...In the early stages a young science is supposed to be speculative, theoretical, concerned with concepts and exploration, and abundantly intellectual".(Ogburn, 1965, p.219)

The academics were also facing economic constraints that limited potential research funding and course offerings. They appeared to be heavily dependent on the funding received through the Carnegie Corporation for organizing the field (and later for conducting research) and through the Federal Emergency Relief Act sponsorship of specific Depression programming. The purposes of the Carnegie supported AAAE were to gather and disseminate information on new and existing adult education aims and methods of work and increase cooperation among organizations and individuals involved in educating adults. (Knowles, 1962, p. 194) These purposes, joined with the economic constraints of the Depression years, were compatible with a reflective rather than an active pattern of operation.

5) And, lastly, the goal of defining the new field of adult education was a primary theme for all the writers. The U.S. field of adult education was designing and defining itself within the mind of the age and in relationship to the issues of the age of the late 1920s and the early 1930s. Part of the mission of the founders of AAAE was to allow the field to define itself, "...unfettered by either an exclusive or an inclusive definition". (Cartwright, 1931, p. 362). As Stubblefield said of Cartwright though, he could avoid defining the field, but he could not avoid describing it. (Stubblefield, 1988, p.29) His experience was shared by other academics. Considerations such as the rising importance of scientific thinking and the societal pressures created by the maturing machine age likely influenced the issues, the content, even the structure of the field.

Other elements complicated the process of defining. It was taking place on all fronts at the same time--the aims, content, processes, structures, providers and learners were being normatively discussed. Simultaneously, the unrelated pieces of an earlier informal field adult education such as the Chautauquas, government immigration programs and juntos, were being assessed for possible inclusion. The academics brought their diverse backgrounds into the mix, both in philosophy and in experience in various subjects. And, there was the additional confounding element that adult education was both a theoretical and a practical field, a structure for which there were few models.

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Faculty Receptivity to Participation in Continuing Education as Instructors, Facilitators or Group Leaders

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Abstract

The purposes of this study were to identify the factors that promote or hinder faculty participation in continuing education and to develop guidelines for increasing faculty receptivity to such participation. Faculty participation in continuing education referred to serving as an instructor, facilitator, or group leader in credit or noncredit programs, courses or workshops. In-depth interviews were conducted with a sample of 30 full-time faculty members at the University of Nebraska at Omaha.

In general, conditions perceived as encouraging faculty to participate included: providing appropriate financial rewards, having the opportunity to meet the needs of a nontraditional student population that is more mature and highly motivated, and meeting the service requirements for promotion and tenure. Conditions seen as hindering faculty participation in continuing education included: the lack of time to do all that is required of faculty, the need to do research, with continuing education not being an integral part of that commitment, poor compensation, and the relatively poor image and lack of status of continuing education.

Faculty Receptivity to Participation in Continuing Education as Instructors, Facilitators or Group Leaders

As part of its mission, a comprehensive university must reach out into the community, region, and nation. Often, a significant part of that outreach is accomplished through the university's programs of continuing education. The faculty of the university are a primary resource for accomplishing this outreach effort. They are the main intellectual resource of the university, and are an ideal supplier of instruction. They also come into contact with many different people from different backgrounds and have the potential for being excellent representatives of the university to the community.

However, not all faculty are enthusiastic participants in continuing education. The reasons why some contribute to this effort while others do not is not very well understood. Research that has been done to date, nonetheless, does show possible obstacles to faculty receptivity to and participation as instructors in continuing education. Continuing educators, administrators, and faculty must be concerned about why faculty do or do not participate in continuing education in order to maintain an effective continuing education program and to carry out the mission of a comprehensive university. In order to accomplish these purposes, the barriers to faculty participation must be clearly understood so that they can be overcome and incentives provided for involvement.

The barriers to faculty involvement are many. For instance, insufficient faculty incentives are a common theme in the literature regarding participation in continuing education. Even though there may be some extrinsic rewards for continuing education activities, the primary reward mechanism in the institution does little to enhance faculty desire to participate (Freedman, 1983; Pollicita & Hanna, 1983; Schuh, 1984; Votruba, 1978).

There is also limited monetary incentive for faculty participation (Scott, 1984a, 1984b: Patton, 1975). A 1981 survey of education deans in the member institutions of the National Association of State University and Land Grant Colleges, for instance, identified limited funding and poor faculty rewards as the two greatest barriers to off-campus programming.

Another possible barrier to faculty involvement in continuing education is that there simply may not be an awareness of what continuing education is all about (Mezack & Cardot, 1988). This lack of awareness oftentimes will lend itself to continuing education having a lesser image or being perceived as less prestigious than other academic units.

Even when faculty do participate, there is little integration into the continuing education environment. Generally, participation by continuing education faculty is limited to the teaching function. Seldom is there an active involvement in the continuing education mission which includes such things as program planning, marketing, and evaluation (Gordon), 1974. This integration could create a greater awareness of continuing education (Vicere, 1985). Continuing education may be very much "in" the university organization but not "of" the university organization (Queeney, 1984, p.38).

In light of these factors, the present study of faculty receptivity to participation was undertaken for two major purposes. The first purpose was to more clearly identify, through a qualitative analysis of interviews with faculty those factors they themselves perceived as promoting or hindering higher education faculty participation in continuing education. The second purpose was the construction of guidelines for faculty participation that could be used to increase faculty receptivity to participation in continuing education.

The specific research questions addressed were the following:

1. What perceptions do faculty have of continuing education and how knowledgeable are they about it?
2. What impediments/barriers do faculty perceive as hindrances to their participation in continuing education activities?
3. What incentives do faculty see for participating in continuing education?
4. Do faculty who have not participated in continuing education activities have the same perceptions as faculty who have?
5. Using the information from Question 1-4, what guidelines are needed to improve the level of receptivity and participation?

METHODOLOGY

The population selected for this study was faculty associated with the University of Nebraska at Omaha (UNO). The sample included fifteen participants and 15 nonparticipants in continuing education. Participants in continuing education were defined as individuals who had an instructional/teaching role as a lecturer, facilitator, or group leader in noncredit or credit programs at the UNO in the last 10 years. Nonparticipants in continuing education were individuals who had not had an instructional or teaching role in noncredit or credit programs at the UNO in the past 10 years.

The thirty faculty interviewed, ten females and 20 males, were selected from the five colleges at the UNO: the College of Business Administration, the College of Arts and Sciences, the College of Education, the College of Fine Arts, and the College of Public Affairs and Community Service. There were a variety of departments represented from each college with equal distribution of faculty ranks for participants and nonparticipants in continuing education.

Both participants and nonparticipants were initially selected from a 1988 listing of full-time faculty at UNO acquired from the office of the Vice-Chancellor for Academic Affairs. The participating faculty were then identified by the Dean of the College of Continuing Studies and the investigator, based on direct knowledge of their participation in continuing education. These names were then cross-checked by administrative personnel responsible for credit and noncredit programming the College of Continuing Studies. A final check was made by asking selected faculty members themselves if they had participated in continuing education by teaching a credit or noncredit continuing education course at the University of Nebraska at Omaha in the past 10 years.

Interviews were personally arranged by the investigator with each faculty member by telephone. Of the original 30 faculty selected, only 1 person was unable to schedule an interview in the allotted time and an alternate faculty member was contacted. The interview itself was a semi-structured interview, which is recommended as well-suited for studies in education (Borg & Gall, 1989). In a structured interview, the interviewer asks structured questions, but then probes more deeply by asking open-ended question in areas of concern. Good interview practices were followed such as establishing a common frame of reference, not asking leading questions, not contradicting or "cross-examining' the interviewee, not asking too many closed-form questions in succession, nor changing the subject (Gay, 1987). Each interview was taped and notes were taken during the interview to supplement and clarify the responses.

Ten specific questions were asked of each interviewee that explored the interviewees' experiences as a participant in continuing education or, if the interviewee was a nonparticipant, whether anyone asked them to participate. Other questions were directed towards who faculty knew in continuing education, what would encourage faculty like themselves to participate in continuing education, and what were the barriers to participation in continuing education. They were also asked how they would overcome the obstacles to participation. Other inquiries related to their perception of whether their department chair or Dean was interested in their participation in continuing education or if the institution (UNO) could change its culture to promote continuing education. A final questioning sequence revolved around what specifically the College of Continuing Studies could to promote participation and what the benefits would be to faculty for participating. All faculty were allowed any final comments at the close of the interview.

RESULTS AND DISCUSSION

Eleven out of the 15 nonparticipants reported they never had been asked to participate in continuing education and three of the remaining four nonparticipants had not been asked recently or directly. Thus, it appears that there may be a relationship between being asked to become involved in continuing education and faculty having any involvement in continuing education. It also appears that faculty members who "know someone" in continuing education are much more likely to participate than those who don't. There was a striking difference between participants and nonparticipants on this dimension: 14 of the 15 participants currently knew someone in continuing education while only 7 of 15 nonparticipants knew someone. Interestingly, participants knew considerably more individuals in the noncredit than in the credit area. McCarthy (1980) and Mezak and Cardot (1988) reported that the noncredit area is perceived as having less importance than the credit area. What this may mean is that faculty involvement with continuing education may have more to do with relationships and who you know than with perceived images or status and there is a reasonable hypothesis that if faculty know the continuing education staff there is a greater likelihood of their participation.

Another question posed to faculty focused on the conditions necessary to encourage their participation in continuing education. The most frequent response, given by 22 of the 30 persons interviewed, was financial reward. Two-thirds of the participants and 80 percent of the nonparticipants indicated this. The second most important condition for encouraging participation related to meeting the needs of nontraditional students. Seven of the participants interviewed and nine of nonparticipants, over half of the sample, stated that they saw meeting needs of a nontraditional population as an important condition for participating in continuing education. A third reason mentioned for encouraging participation was helping faculty meet their goals for promotion and tenure. Thirty percent of the total sample felt that an integration of continuing education with faculty goals such as movement toward promotion and tenure would be incentives for participating. Generally, faculty do not think of meeting promotion and tenure goals as the most prominent condition that could be used to encourage participation because continuing education does not appear to have that much value in the promotion and tenure reward system.

Lack of time was perceived as the biggest hindrance to participation in continuing education. Linked with this barrier was the need to do research. Nonparticipants appeared to be more concerned about the factors of time and need to research; these were cited only 8 times by participants, but cited 17 times by nonparticipants. Research by Seldin (1982, 1984), and McCarthy (1980) also showed that the lack of time and conflicting work responsibilities are definite barriers to faculty participation in continuing education. Because research and teaching largely are considered in determining whether a faculty member is promoted, tenured, or receives merit, the time factor is perceived to be of critical importance. A third barrier to participation is that money is not adequate for faculty to spend the time in continuing education activities. Forty-three percent of those interviewed indicated that lack of money was a hindrance to participation. A fourth barrier to participation suggested was the image of continuing education. It appears that faculty have a strong need to know more about continuing education and how it fits into academia. Nine faculty expressed concern in this area; seven were participants while two were nonparticipants in continuing education. This may indicate that those who participate have a greater knowledge about continuing education that those who do not. Another hindrance mentioned was teaching at night.

The two themes that emerged in response to questioning about how to overcome barriers to participation dealt with faculty recognition and rewards and the image of continuing education. Faculty rewards included providing research opportunities, research support or faculty leaves. Image issues concerning faculty dealt with faculty perceptions of continuing educations' overall status, its standards and what its real mission was within the university.

The interest of the department chairs and the college deans seems to have some bearing on faculty participation in continuing education. In response to questions related to department chairs and Deans interest in faculty participation in continuing education, 67% of the participants felt that their administrators did have an interest in their participation and typically their interest was very supportive or encouraging. Of the nonparticipants, there was 53% support but only a small group indicated a very strong support. These data give support to a hypothesis that the department chairs play a substantial role in faculty participation. The department chair who is supportive may give the faculty member the boost to do something "extra" or it may mean that the faculty who perceive support do not question whether they should or should not be involved.

Regarding the question probing what the institution might do to change its culture to encourage continuing education participation, 12 respondents felt that UNO should be placing a greater value on continuing education by providing better incentives. Ten faculty suggested that UNO should do a better job of projecting what is going on in continuing education.

Specific suggestions were also made for the College itself to encourage faculty involvement. Eleven of the thirty faculty indicated that CCS needed to broaden its visibility. Of those eleven, eight were nonparticipants and only three were participants, suggesting that nonparticipants may feel a need to know more about what continuing education is. Other suggestions for the College were better marketing strategies and consistent communication with campus. There is a strong suggestion that more internal marketing would be useful and that improved strategies for working with faculty would be healthy.

Perceived benefits to faculty was the final area probed. Half of the total group of thirty agreed that a benefit for participation was having an opportunity for self-renewal and stimulation to do something that they otherwise wouldn't be able to do. This benefit was most frequently mentioned by participants (eight) and nonparticipants (seven). Another benefit indicated by twelve of the 30 respondents was money. This was followed by a third benefit stated by 9 of the 30 respondents who indicated that there was recognition and reward for letting others know what they do. Finally, seven of the 30 related that their love for teaching and the teaching-learning process was a benefit for participation in continuing education.

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A Sound Mind in a Sound Body: The Potential to Enhance Learning in Later Life

by

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ABSTRACT

This study investigated the effects of participation in a 20-week low-impact aerobics program on selected maximal and submaximal fitness variables and several aspects of cognition in women 65 years of age and older. The sample consisted of 15 exercising subjects (M age = 71 years) and 5 nonexercising subjects (M age = 67 years). Pretests and posttests consisted of 1) a maximal treadmill test (walking); 2) the WAIS subtests: Picture Completion, Digit Span, Block Design, and Digit Symbol; and 3) the Stroop Color and Word Test. The treatment consisted of four low-impact aerobic sessions per week, for one hour duration.

A two-way analysis of variance compared posttest means between groups, controlling for pretest scores, and found no significant differences ($p>.05$) in maximal oxygen consumption and time on treadmill. At the submaximal level of physical performance the control group performed significantly better on minute 12 VO2 ml.kg-1.min-1 than the experimental group. No significant differences were found between groups ($p>.05$) on measures of cognition.

Age, years of schooling and attendance were compared with posttest mean scores from the total group, experimental group and the control group. A multiple regression analysis using these three as predictor variables indicated that attendance inversely affected change in Block Design within the experimental group only. Analysis of covariance between groups using age, years of schooling and attendance found both Block Design and resting systolic blood pressure significantly changed in a positive direction. Correlational analysis found significant relationships between some of the variables.

Recent demographic estimates, based on data from the United States Bureau of the Census, clearly indicate that the aged population is rapidly increasing and will continue to do so until the year 2030 (Fowles, 1987). As this segment of the population continues to grow, an ever-increasing concern is developing with regard to the quality of life during the later years. Governmental agencies, medical and health professionals, and educators, appear to be stepping up their efforts at understanding the unique needs of elderly persons in order to glean some insights into better serving this growing segment of society.

The enhancement of the quality of life in the later years involves empowering individuals with the necessary knowledge and skills to age successfully. The author defines successful aging as the ability to adapt to the physiological, emotional, and psychological changes which accompany the aging process. These adaptations enable individuals not only to maintain former life patterns but to continue experiencing growth while developing their full potential, regardless of age. A quality life in old age depends upon the ability to age successfully while "mental and physical inactivity are the greatest obstacles to successful aging; the atrophy of disuse, the greatest thief of capacity" (Hentges, 1980, p.26).

Over the past two decades, society as a whole has come to recognize that elderly individuals do possess special needs arising from their life stage tasks, needs which are inherently different from those of other age groups. Taking into consideration both the legislative directives (The Older Americans Act, Title I, 1965) and the fact that future older adults may well desire further educational opportunities as indicated by Cross's (1981) research on educational participation, adult education as a profession has begun to respond to the educational needs of the older adult. Increased effort to provide opportunities for learning, relevant to life experiences, has resulted in a variety of educational offerings never before available to the older learner.

Regardless of the nature of the educational program, one major concern prevails regarding the teaching of older adults, and that is in relation to how they learn. What methods, strategies, and techniques serve to enhance the learning process for the older adult? In other words, what is known about the learning process in later life and what strategies, if any, might serve to maintain or enhance cognition in old age?

The concept of a "sound mind in a sound body" which the early Greek philosopher Homer espoused (Stevenson, 1948) is receiving renewed attention as recent research suggests that exercise not only improves physical condition, but may also serve to enhance the emotional and psychological well-being of older adults (Bennett, Carmack, & Garder, 1982; Beran, 1986; Buccola & Stone, 1975; Cross, 1981; Harris, 1986;

Ostrow, 1984). Specifically, it has been suggested that cognitive function may be enhanced due to changes in regional cerebral circulation, increased neural activity, and heightened metabolic processes in the brain resulting from participation in a regular exercise program (Dustman et al., 1984; Spirduso, 1983).

If it is accepted that one is entitled to a quality existence in later life and if the ability to continue learning serves to enhance quality of life, what do we as educators know about learning in old age? What type of activities might serve to maintain or enhance cognitive function in later life? If the previous assumption is accepted, then it becomes necessary to discover activities or strategies which may serve to enhance quality of life in old age. As stated earlier, successful aging requires the ability to adapt to changes, those occurring within the individual and those resulting from a rapidly changing environment. Successful adaptive behavior most often requires the acquisition and application of new knowledge and skills. It is being suggested that regular exercise not only improves one's physical status but may also benefit the individual's mental capacity.

This study investigated the effects of participation in a 20-week low-impact aerobics program on selected maximal and submaximal fitness variables and several aspects of cognition in women 65 years of age and older. The sample consisted of 15 exercising subjects (M age = 71 years) comprising the experimental group and 5 nonexercising subjects (M age = 67 years) comprising the control group. All subjects were medically approved for participation by their personal physicians.

In this investigation, the independent variable was a low impact aerobic exercise program which served as the treatment administered. The dependent variables were measures of selected fitness parameters (obtained from a treadmill test) and several aspects of cognitive function (obtained from the WAIS Digit Span, Picture Completion, Block Design, and Digit Symbol; and the Stroop Color and Word Test) all of which were measured pre and post experimental treatment. The independent variable, the low impact aerobics program, was administered in order to determine its ability to affect the dependent variables of fitness and cognition in older women.

Procedures for this investigation consisted of securing permission from appropriate authorities for human subject approval, followed by subject recruitment, subject screening for participation, informational meeting for all potential subjects, pretesting of subjects, application of treatment to experimental group, posttesting of subjects and postinvestigation briefing for all subjects involved.

A comparison of pretest means between groups was executed on scores from the dependent variables. A one-way analysis of variance indicated that the two groups were not significantly different on the physiological and cognitive variables investigated at the time of pretest. Data from two of the experimental subjects were not analyzed since the subjects failed to attend class at least 60% of the time. Attendance at the low-impact aerobic classes ranged from 71%-94%.

Based on the findings and given the delimitations of this investigation the following conclusions were drawn:

1. Participation in a low impact aerobics program by women 65 years of age and older had no significant effect on maximal and submaximal cardiovascular measures or selected measures of cognition when compared to a control group.

2. Time on treadmill was inversely related to increasing age while adherence rate to exercise was positively related.

3. A strong positive relationship existed between years of schooling and higher scores on tests of cognition.

4. Previously sedentary, older female subjects easily adapted to treadmill testing and performed maximal effort without experiencing any negative repercussions.

5. Given the current techniques to measure fitness status and cognition in older adults, the suggestion of improved cognitive function as a result of aerobic exercise was not a supported hypothesis.

To age successfully requires adaptation to the physiological, emotional, and psychological changes which accompany the aging process. Such adaptations enable individuals to not only maintain former life patterns, but to continue experiencing growth while developing to one's full potential, regardless of age. Successful aging transcends mere survival of life's daily challenges; given one's abilities and resources, it implies the fullest realization of life. If it is accepted that one is entitled to a quality existence in later life and if the ability to continue learning serves to enhance quality of life, then it becomes necessary to discover activities or strategies which could serve to enhance the achievement and maintenance of a quality existence in later life.

To age successfully involves the acquisition of the necessary knowledge and skills to meet the continuously changing challenges evolving from advancing life stages. The role of adult education is based on the premise that learning is a lifelong process and one which should help individuals realize their full potential. This investigation explored physical activity as a strategy for the potential enhancement of learning in later life. Although significant findings in regards to fitness and cognition were not demonstrated, the mere fact that this relationship is receiving renewed attention from researchers suggests that a beneficial relationship between fitness and learning may indeed exist.

Adult educators choosing to work with older adults in a learning environment may need to look beyond cognitive strategies alone in helping older adults learn and render some consideration to physical status as well. Educational programs planned for the older learner should incorporate age-appropriate teaching/learning strategies which encompass the premise of a sound mind in a sound body. Given the health demographics for older adults it is evident that as a population ages so does the incidence of chronic health problems (Fowles, 1987). Previous research on intelligence and aging has demonstrated that rate of learning for older adults is negatively effected by the presence of disease (Schaie & Geiwetz, 1982). In addition, conditions of anoxia (lack of oxygen to the brain) have demonstrated decreased ability for cognitive processing (Spirduso, 1983). Efforts on the part of educators to help older adults maintain a fit lifestyle could be a first step in helping them age successfully.

As the older adult population continues to grow and as more knowledge is acquired regarding the functional ability of the aging human body, opportunities for advancing this body of knowledge become practically limitless for researchers in exercise physiology. The findings from this study imply that the older adult, medically screened, is capable of rigorous physical assessment and participation within the limits of their functional ability. The benefits of regular exercise for the older adult has been documented over the past 20 years and the nature of these benefits have served to enhance the quality of later life. Research in the area of fitness and cognition has begun to demonstrate the potential for a mutually beneficial relationship to exist. If further research can affirm this relationship, the potential of a fitness lifestyle to enhance the aging process could be subtantial enough to further improve the quality of life in the later years not only physically but intellectually as well.

Finally, the positive reception the subjects demonstrated toward the low-impact aerobics program maintains implications for program planning for older adults. The activity proved to be enjoyable, encouraged social interactions, was appropriately designed to meet the women's functional abilities, and rendered a sense of renewed vigor to their day. A low-impact aerobics program, specifically designed with the older adult in mind, has the potential of becoming a very popular, enjoyable, and beneficial fprm of safe, regular, physical activity for the older adult.

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Getting the Horse Before the Cart: Determining Continuing Education Needs of Vocational Educators

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Abstract

Recent efforts to reconceptualize and possibly redesign teacher education have drawn attention to the need to reconsider teacher inservice or continuing education as well. Although this is needed in all forms of teaching, rapidly expanding knowledge and technology make the need for continuing education among vocational education teachers even more critical. Despite its central role in the work of these teachers, continuing education reflects an array of approaches and a promotion of diversity. Efforts to systematize this process attempt to simplify and routinize what is by nature extremely complex and value-laden. Copa and Copa have advanced a perspective which promises to provide continuing educators with the conceptual and philosophical base for addressing the design and develop of continuing education programs. This study addresses the question of whether several characteristics of this model are reflected in vocational education teachers perceived needs for content and preferences for continuing education activities. Descriptive statistics and content analysis of the data provide strong support for these characteristics. The study suggests that the Copa and Copa model is a useful way to view the problem of continuing education for vocational education teachers.

Getting the Horse Before the Cart: Determining Continuing Education Needs of Vocational Educators

Teacher and inservice education programs have been the recent focus of numerous investigations into educational reform. This activity has generated several different "models" or approaches to teacher education and, to a lesser extent, inservice or continuing education. An example of this in the field of vocational education is the "context-specific" model advanced by Copa and Copa (1990). Although developed primarily for work in teacher education, this model is equally useful for viewing teacher inservice or continuing education as well. The contribution that the Copa and Copa model provides over previous, more eclectic approaches is its grounding in an explicit philosophical and conceptual base. The purpose of this study is to determine the extent to which the beliefs and values of vocational education teachers regarding activities and curricular content of continuing education (CE) programs reflect the dominant assumptions of the Copa and Copa model as it is applied to continuing education.

Background to the Study. The assumption that student learning can be positively influenced by teacher development (Hounshell & Liggett, 1976) has led to on-going efforts to design and deliver increasingly effective inservice or continuing education (CE) programs. Continuing education in vocational education has to date been characterized primarily by knowledge transmission designs in which CE leaders assume responsibility for delivering information to teachers in the field. This form of CE has been regularly supplemented by "return to industry" practica, self-directed learning modules, and active participation within the field's many professional organizations (Facklam, 1977; King, 1986; Ohio State University, 1978). In the words of one practitioner, current inservice practice in VE reflects an array of approaches, a promotion of diversity which may be attributed to a lack of clear consensus on the validity of any single approach (Jacullo-Noto, 1988).

Recent efforts at developing models of CE (Wood, McQuarrie & Thompson, 1982; Mohlman, Kierstead & Gundlach, 1982; Wilsey & Killian, 1982; Albertson, 1985; McCarthy, 1982; Leahy, 1986) are based on the assumption that change will occur more readily as a result of the systematic nature of the CE programs. Although several models are now available they represent differing and potentially conflicting philosophical positions and suggestions as to the nature of effective inservice. Copa and Copa (1990) argue these efforts attempt to routinize and simplify "what is by its very nature a complex, contextual, and value-laden endeavor" (p. 35). A central assumption of their approach is the idea that design and implementation of inservice or continuing education is a "practical problem" (Reid, 1979). By this Copa & Copa refer to questions that must be answered in the process of redesigning programs. The grounds for decision-making, however, are necessarily uncertain, contextual, unique, value-laden, and the results are unpredictable. A practical approach to CE explicitly addresses the uncertainty and value-laden decisions that characterize program planing in CE (Liston & Zeichner, 1987; Schon, 1987; Tom, 1984). A practical approach necessarily involves reflection and dialogue and participation by all individuals involved in CE. According to this point of view, "judgments cannot be relegated to experts" (Copa & Copa, 1990, p. 44). The Copa and Copa (1990) model suggests that we make the whole enterprise of teacher inservice problematic and focus on the nature of the process rather than the product.

The Copa and Copa model stresses the importance of locating the authority for program planning and development in CE within the experiences of the vocational education teachers themselves (Grunewald, 1987). Concrete activities of CE programs designed and implemented according to this approach would be characterized by extensive involvement of and interaction and collaboration among the teaching staff in both the planning and implementation of the program (Ashby-Davis, 1984; Rothberg, 1984). Implicit is the assumption that teachers themselves share the dominant beliefs and values reflected in this model. We make this assumption problematic and have addressed it through an empirical study of vocational education teachers. We sought to determine the extent to which the assumptions of continuing education embedded in the Copa and Copa model are reflected in the preferences and choices that classroom teachers make regarding delivery methods and content needs. Specifically, do these preferences and choices reflect the characteristics of 1) contextual specificity, 2) participant involvement, and 3) experiential and interactive methods.

Methods. Vocational educators who are currently certified by the State of Nebraska (N = 2,248) were surveyed through a self-report questionnaire. The questionnaire was prepared by a panel comprised of teacher trainers and graduate students from the University of Nebraska, and administrators and classroom teachers from the Omaha Public Schools. This paper reports on the part of the questionnaire which related to their perceived needs for content and preferences for continuing education activities. Quantitative and qualitative data were elicited in the form of ratings and rankings, and open-ended comments, respectively. The Cronbach alpha reliability coefficient for the attitudinal scales was .96. The survey instrument was pilot tested with 39 local vocational educators. To insure an adequate confidence level, the final sample consisted of 625 teachers from throughout the State. Stratified random sampling was employed to insure selection of a proportionate number of educators from each area of certification and sufficient representation of each district size (Class A - D). The survey was mailed via first class mail the last week in April. The response rate was 41%. No formal follow up was attempted. Of the usable responses 45% were completed by males and 55% by females. All adult age groups were represented with 8.6% listed their age as being under 25, 16.8% between the ages of 26 and 30, 14.8% from 31 to 35, 14.8% from 36 to 40, 20.7% from 41 to 45, 10.2% from 36 to 50, 5.9% from 51 to 55 and 8.2% over the age of 55. Areas of endorsement included 33% in Business Education, 22.2% in Trades and Industry, 26.4% in Home and Consumer Economics, 2.7% in Marketing, 1.9% in Health Occupations, 4.6% in Diversified Occupations, 6.5% in Agriculture Education, and 2.7% in Vocational Special Needs. The respondents' years of experience ranged from less than 1 year to 43. The results of the survey were tabulated and descriptive analyses were conducted using SPSS-X. Inferential statistics were not conducted as part of this study. Teacher comments were analyzed using content analysis procedures. The analyses were interpreted from the perspective of the questions identified in the previous section.

Results. The results of this study are reported in terms of the quantitative rankings of teachers for preferred CE activities and their perceived understanding of various topics related to their practice, and the results of the content analysis of teachers' comments which were solicited as part of the ranking of CE activities. These analyses was used to partially address the question of whether vocational education teachers preferred CE activities that are consistent with the kinds of activities implied in the Copa and Copa model. This model also suggests that curricular content for CE will reflect the specific needs of the context in which teachers work. Thus, we examined the teachers' perceived needs to determine the level of variability that exits across endorsement areas. A finding of considerable variability across areas would be consistent with the Copa and Copa model. Analysis by school or district was not undertaken for this paper, due the extreme complexity involved in such a state-wide analysis.

Quantitative analysis. Descriptive statistics were computed and analyzed to determine overall preferences for CE activities and perceived areas of need, and to determine if large differences existed across endorsement areas with respect to these issues. Five CE activities were ranked (with 1 being most preferred). The rankings of CE activities for the sample overall are (Mean ranks are provided in the parentheses): Inservice workshops (2.0); Observation and Work with Peers (2.2); Graduate Coursework in Education (3.3); Graduate Coursework (other than education) (3.7); and Reading in Professional Journals (3.9). Workshops and observation were ranked either first or second by all endorsement areas, with the exception of marketing education, in which Observation received a relative rank of 4. Reading received a relative rank of either 4 or 5 in all endorsement areas. Graduate education received a relative ranking of 3 from six of the eight endorsement areas. Graduate coursework received a relative rank of 2 from teachers in marketing education and a relative rank of 5 from teachers in health occupations. Thus, with two notable exceptions, the teachers in the eight endorsement areas demonstrated fairly good agreement on their relative ranks of the different CE activities.

Teachers were asked to rate 15 possible curricular areas, in terms of their present level of understanding, from 1 (high level of understanding) to 5 (low level of understanding). Items receiving a rating of less than 2 were interpreted as topics for which the teachers perceived the least need. A finding of little or no agreement across endorsement areas would be consistent with the Copa and Copa model. The results of these ratings present a mixed picture. Across all endorsement areas, the following topics were perceived to be least understood (and, thus, of highest need): Multicultural issues (2.0); School organization and finance (2.0); Social and political role of schools (2.0); and Needs of Special Populations (2.1). Topics for which there was the highest perceived understanding (least need) were: Content in your subject area (1.3); Classroom management (1.5); and Growth and development (1.6). Agreement was observed across endorsement areas at either end of the perceived understanding scale. For example, teachers in all endorsement areas rated "Needs of Special Populations" as the topic of which they have the least or next to the least understanding, while they rated Content in their Subject Area as the topic they understood the most. There were no obvious patterns of agreement among the remaining 13 topics, with endorsement areas often differing considerably in their perceived levels of understanding in the different areas.

Qualitative Analysis. Respondents were invited to write comments relative to their rankings of preference for continuing education activities. These comments were transcribed verbatim and subjected to content analysis. This analysis suggests a framework for viewing how and why vocational education teachers develop preferences for continuing education activities. The intent of this analysis was to determine the extent to which these comments are consistent with the beliefs, assumptions, and values embedded in the Copa and Copa model.

In our request for comments, we did not provide a specific focus for the teachers to address. Rather, the request was open ended and nonspecific. An initial analysis, however, revealed that a great majority of the comments shared in common the aspect of reason or rationale for the rankings of preference. This, then became the basis for the focus of the content analysis. Further analysis suggested that the comments reflected four principal groups or "domains" of reasons given by the teachers for ranking the CE activities. With respect to these activities, the comments reflected characteristics of 1) Content provided; 2) Processes used; 3) The facilitators, leaders, or instructors; and 4) Self-learning.

Comments within each of these domains were then subjected to further content analysis. The concept of "characteristic" was used to further develop the nature of each of these domains. More than half the comments made by the teachers related to the Content domain of CE activity. The majority of the teachers' comments regarding their preferences for CE activities based on content reflect a concern for the applicability and practicality of the content, and relevance of the content to themselves and/or their practices. Additional characteristics that were identified in the teachers' comments include the extent to which the content represents new material, ideas and techniques for the teacher; the currency of the content; and the extent to which participants are involved in the generation of the content.

Comments within the Process domain represented several characteristics regarding how CE activities are implemented. Activities that used application, demonstration, hands-on, or how-to processes, and involvement and interaction of participants in the process were the characteristics most frequently represented in this domain. Additional comments suggest that preferred CE activities are characterized by processes that make effective and efficient use of time; are individualized and specific to the context of the individual teachers; focus on particular content or topic; and are oriented to change in classroom behavior of the teachers.

Somewhat fewer comments were recorded for the domains of Facilitator and Self-assessment. Comments within the Facilitator domain reflected two fundamental characteristics viewed as desirable of the facilitator, instructor, or leader of a CE activity: a) Competent and knowledgeable; and c) Adaptive to participants' individual needs and situations. Most of the comments recorded within the Self-Learning domain reflected the characteristic of self-assessment. That is, teachers valued a particular CE activity to the extent that it provided them with an opportunity to evaluate or assess the strengths and weaknesses of their present classroom practices. Additional characteristics observed within this domain included the capacity of the activity to motivate the teachers and to create or stimulate the adoption of a new perspective on one's teaching.

In summary, the analysis of teacher comments regarding their rankings of preferred CE activities suggests that such rankings are made on the basis of a fairly explicit rationale. This rationale involves concerns for the content of the activity, processes used, competence of the facilitator, and the capacity of the activity to facilitate self-learning. Comments within each of these categories reflect a strong, individualized, context specific view of CE activities for vocational education teachers. Prospective participants are looking for content that is practical and has immediate application to their classroom situation. They want CE processes to be participatory and highly experiential. Woven throughout the comments is the idea of "peer teaching" - of observing, being observed by, and sharing experiences, techniques, and strategies with other teachers within one's school and one's area of expertise. Teachers are looking for facilitators of workshops and courses who are "experts" within their given area and can facilitate the development of that expertise within their CE participants. Finally, vocational education teachers are looking to CE activities as a way of identifying their strengths as a classroom teacher and those areas of practice in which they can improve or change.

Discussion and Implications. Copa and Copa (1990) have presented a perspective for the redesign of teacher education programs that hold significant implications for planning and developing teacher inservice or continuing education programs as well. A major thrust of this study was to determine the extent to which certain characteristics of this perspective are reflected in the preferences and perceived needs of vocational education teachers for CE activities and topics. The specific characteristics of the Copa and Copa model that were focused on here are those pertaining to context-specicifity, interaction, involvement, and collaboration among teachers and staff in planning, developing, and implementing continuing education programs. In our analysis of the data, we sought to determine the extent to which the preferences for CE activities provided by the teachers in the study were consistent with these characteristics.

The CE activities most preferred by the teachers in our sample are Inservice Workshops and Observation and Work with Other Teachers. Analysis of open-ended comments suggest the reasoning teachers used in defining these preferences. Comments recorded within the Content domain indicate a strong preference for CE content that is highly practical and relevant to them and has immediate application within their classrooms. That is, teachers appear to be making decisions about CE activities on the basis of the capacity of these activities to address the contextually specific concerns that they bring to the activity. Numerous comments reflect the belief that inservice workshops and working with their peers within a structured program allow these contextual concerns to be addressed. Several teachers made reference to the importance of an activity being able to focus on a single topic or concern, a characteristic attributed to workshop formats. In addition, comments in the Content domain also indicate a strong preference by the teachers for involvement in the generation of this content, again a characteristic they associated with workshops and observation. Additional analysis of comments recorded within the Process, Facilitator, and Self-Learning domains provide further evidence for this position. With respect to process, the teachers articulated a strong preference for activities that are experiential, interactive, highly involving, and individualized to the teacher's unique context. Effective facilitators are characterized as being able to adapt to the individual needs of the teachers, and activities are valued that contribute to an individual teacher's capacity to identify areas of need and change his or her classroom practice.

Thus, taken together, the quantitative and qualitative analysis of the teachers' preferences for CE activities provide strong support for those aspects of the Copa and Copa model identified earlier. The teachers included in this study appear to hold beliefs, assumptions, and values that are consonant with this model, particularly the attributes of contextual specificity, involvement, interaction, and collaboration. The quantitative analysis of the perceived content needs of the teachers is supportive of the model if somewhat ambiguous. As we indicated earlier, the teachers appeared to agree, with respect to ratings of their understanding, on only two of the 15 topics listed - Needs of Special Populations (high need) and Content in their Subject Area (low need). Relatively little agreement was observed across areas of endorsement for the remaining 13 topics. Taken as a whole, the results of this analysis are supportive of a major claim of the Copa and Copa model, that the development of curriculum for inservice or continuing education programs must take place within the specific contexts of the teachers' practices. In this instance, the context is being defined as area of endorsement. Yet, the teachers demonstrated remarkable agreement on the two areas identified above. This, however, would not appear to be necessarily inconsistent with the model. The topic of Needs of Special Populations has been receiving considerable attention across Nebraska in all forms of education. Public attention through governmental mandates and other legislative matters serves to underscore the importance of this issue to society. Thus, we can expect many educators to reflect this major, important concern of society in their ratings.

In summary, the findings of this study provide strong support for some of the major claims of the approach to CE reflected in the work of Copa and Copa (1990). These claims point to the need for content and process in teacher inservice or continuing education in VE to be specific to the context of the teachers' practices. Furthermore, teachers should be actively involved in all phases of the process. While these assertions reflect commonly accepted principles of facilitating adult learning (Brookfield, 1986; Knowles, 1984), this study provides empirical support for their application in teacher inservice education.

This study addresses only certain aspects of the Copa and Copa model and much work remains in terms of investigating additional implications represented in the model. The conceptual idea of CE as a "practical problem", however, appears to be a fruitful way to think about the improvement of CE for vocational education teachers. Rather than focusing on the cart, that is, the nature of these programs and what we want them to produce, we should focus more on the nature of the "beast" that should pull the cart, the needs and context of the individual teachers for whom these programs are intended, and the problematic nature of designing programs to meet those needs.

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LEARNING THEORY APPLIED TO ADULTS

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ABSTRACT

Although extensive research into how people learn has been carried out, little has concentrated on the adult learner. In addition, little attention has been given to the practical application of learning theory in adult settings. The model presented here attempts to apply existing learning theories by dividing them into three major categories--cognitive, behaviorist, and psychoanalytic/humanistic--and aligning these categories with the domains within the taxonomy of educational objectives--cognitive, psychomotor, and affective. Beginning with desired outcomes and appropriate goals for each learning situation, appropriate and effective strategies and activities can be developed. The utility of the model lies in its attempt to start with the practical application, the development of objectives and the planning of learning activities, and then work back to the appropriate theories underlying these goals and strategies. The assumptions underlying the model are also presented and illustrated.

LEARNING THEORY APPLIED TO ADULTS

Trenton R. Ferro

Introduction

While the literature in adult, community, and continuing education includes a considerable portion addressing characteristics of adults as learners, barriers to and facilitators of learning, credos of adult learning, learning styles, and related topics (see Merriam, 1988), that addressing adult learning theory (or theories) is more limited. In fact, much of the discussion of learning theory for adults is based on the work of educational psychologists who have focused more on level K-12 education than on adult learning. Furthermore, a fair amount of the literature is devoted to arguments about which is the correct--or at least the better--theory or paradigm.

The theoretical model proposed here alters the question: How can adult educators operationalize these learning theories? This is done by moving from program objectives to the appropriate theories rather than starting with a particular theory and imposing it on all learning situations.

Importance

If adult educators are to move beyond a "cookbook" approach to course development and program planning--an approach in which methods and techniques are chosen more because they look good, feel right, are easy and comfortable for the facilitator, fit philosophical presuppositions, etc.--and become more intentional in the selection of appropriate activities for learning, these practitioners need some guidelines which will help them apply to specific settings what theorists have developed about how people learn. The purpose behind the development of this model is a concern for translating learning theory into a format which will help the practitioner in the adult, community, and continuing education setting to be more intentional about the process of planning and conducting educative experiences. By paying careful attention to both the learning objectives and appropriate learning theory, the educator will be able to develop and carry out more consistent courses and programs. Hence, the model is intended to be both a descriptive depiction of current theory and a guide to making practical application of that theory.

Proposed Model

The applied learning theory model presented here is based on certain assumptions. 1) Each of the learning theories, grouped together under the broader headings of behaviorist, cognitive, and humanistic (Dubin & Okun, 1973; Simpson, 1980; Darkenwald & Merriam, 1982) are valid in appropriate circumstances and under certain conditions. There is not a "right" or better learning theory; no theory fully describes or explains how people learn. Rather, each provides insights into how learning takes place in specific settings and applications. When all three categories of theories are brought together, they combine much like the facets of a diamond. Each provides significant insights, but what happens in learning is much more than any one theory is able to describe.

2) The application of the appropriate theories is dependent on the learning objectives. As various discussions of educational objectives (Bloom, Engelhart, Furst, Hill, & Kratwohl, 1956; Kratwohl, Bloom, & Masia, 1956; Harrow, 1972) have illustrated, the range of possible learning is very and broad and complex. Careful planning of programs, courses, workshops, seminars, training sessions, and the like usually leads to objectives spread across the spectrum of human learning: cognitive, affective, and psychomotor. It appears a natural extension to develop and utilize those strategies and activities which would best achieve the desired objectives. In turn, it appears a natural conclusion to assume that the application of cognitive theory would best facilitate the achievement of cognitive goals; behaviorist theory, psychomotor goals; and humanistic theory, affective goals.

3) Rarely does a single theory meet all the needs and requirements of any particular learning situation. Rarely, if ever, is a learning situation based entirely on a set of objectives which fall totally within one domain. Rather, in some settings the emphasis may be on the development of, for example, values. However, the learners may need to expand their knowledge base before they can arrive at decisions and make appropriate commitments.

Taking another situation in which participants may be learning a language, all three domains come into play. Students, for example, must gain an understanding of word meanings, syntax, and grammar (cognitive), acquire proper mouth formation and vocalization (psychomotor), and develop an appreciation for the lands and cultures of native speakers (affective, but often based on strong elements of cognitive learning). Consequently, while one domain and its accompanying theories may be predominate, the other domains, along with their theories, must also be utilized in planning and developing the learning experience.

Application

The development and applicability of this model is based upon combining the three categories of learning theory (behaviorist, cognitive, and humanistic) with the three domains of the taxonomy of educational objectives (psychomotor, cognitive, and affective). The model then illustrates how, for instance, a learning situation in which a psychomotor skill (e.g., writing, operating a machine, learning a sport) is taught will draw most heavily on theories in the behaviorist category. However, since there may also be objectives related to the acquisition of knowledge and the changing of attitudes, cognitive and affective theories will also be drawn upon to the extent that these objectives are present. Armed with this understanding and insight, the educator or program planner can then proceed to develop appropriate activities for the accomplishment of these objectives.

In a similar manner, learning situations emphasizing the acquisition of knowledge and the development of higher level thinking skills would draw more heavily from cognitive learning theories, and those circumstances which place an emphasis on defining values, becoming more sensitive to feelings and emotions, changing attitudes, and the like would utilize humanistic theories as a base for developing appropriate strategies. Objectives determine which theories will be applied in order to facilitate the most effective learning.

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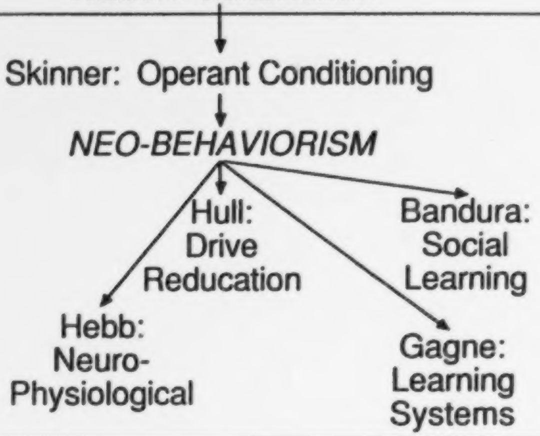
LEARNING THEORIES APPLI

LEARNING THEORY	*BEHAVIORISM*
ANTECEDENTS	Thorndike: Connectionism Watson: Behaviorism
THEORISTS	 Skinner: Operant Conditioning *NEO-BEHAVIORISM* Hull: Drive Reducation Bandura: Social Learning Hebb: Neuro-Physiological Gagne: Learning Systems
ORIENTATION	Teacher Centered
EMPHASIS	Skills; Behaviors; Psychomotor Development
DESIRED OUTCOME	Psychomotor Skills; Action Patterns
OBJECTIVES (BLOOM)	Psychomotor Domain
ACTIVITIES	(Objectives and activities, based

ED TO ADULTS: A MODEL

COGNITIVE	*PSYCHOANALYTIC/HUMANISTIC*
Gestalt Psychology (Wertheimer, Kohler, Koffka) Cognitive Perspective (Lewin, Tolman)	Freud; Erikson; Ego Development; Conflict Resolution
(Piaget: Intellectual Developmental Stages) Ausubel: Reception Learning (Deductive) Bruner: Discovery Learning (Inductive)	Freire: Conscientization Maslow: Self-Actualization Knowles/Tough: Self-Directed Learning Rogers: Facilitation
Content Centered	Student Centered
Conceptualization; Abstraction; Intuition	Attitudes; Valuing
Knowledge	Attitudes
Cognitive Domain	Affective Domain

on desired outcomes, are developed according to appropriate learning theories.)

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A DEVELOPMENTAL APPROACH TO OLDER ADULT LEARNING NEEDS

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ABSTRACT

Using a grounded theory approach, interviews were conducted with 70 older adults for the purpose of gathering information describing their experiences across the older adult lifespan. Data indicate that developmental change among this population of older adults may be described in five periods: (a) Continuity with Middle Age, (b) Early Transition, (c) Revised Lifestyle, (d) Later Transition, and (e) Final Period, and that tasks and learning needs may be identified for each period. The study found that although there is a similarity of learning needs across the five periods, the learning needs of older adults are strongly shaped by the period and context in which they occur. These findings call attention to the constantly changing developmental context in which older adults live and to the need for programs targeted more precisely to the educational needs of discrete subpopulations of older adults on the basis of their development.

A DEVELOPMENTAL APPROACH TO OLDER ADULT LEARNING NEEDS

The Problem

As longevity is prolonged and both the number of years and the proportion of life lived as an older adult increases, the adequacy of statements describing older adult development and older adult learning needs based on the assumption that old age represents a single stage must be seriously questioned. Despite broad awareness of the heterogeneity of the older adult population, the literature has nevertheless tended to treat older adulthood as if it consisted of a single life stage, as in Erikson (1963) and Havighurst (1953), or two at most, as in Levinson (1978) and Peck (1956). Accordingly, the learning needs of older adults as described by McClusky (n.d.), Hiemstra (1976), McCoy (1977), Peterson (1984), McDaniel (1984), Leclerc (1985), and others have been regarded as constant over the older adult years, implying that "one size fits all."

In order to describe developmental change across the older adult lifespan in a systematic way, Fisher (1990) developed an empirically-based framework consisting of the following periods: (a) Continuity with Middle Age; (b) Early Transition; (c) Revised Lifestyle; (d) Later Transition; and (e) Final Period. Because of the diversity of events which older adults experience throughout these five periods, learning needs may also be expected to vary when considered in relation to each of the periods, counter to the literature which assumes a single set of learning needs throughout older adulthood.

The purpose of the research presented in this paper is to (a) describe the tasks appropriate to each of these five developmental periods and (b) identify learning needs of older adults for each period based on the tasks reported. The findings provide a new basis upon which to create needs assessments, program plans, and other components of educational programs which are responsive to developmental change among older adults and to target programs for discrete older adult subpopulations.

Methodology

Using a grounded theory approach, holistic data were gathered through naturalistic inquiry to describe the experiences of older adults and to generate a framework for describing changes which occur during the older adult years.

Hour-long interviews were conducted with older adults for the purpose of gaining information about the events and transitions of their latter years and for understanding the context within which they viewed those experiences. Questions probed the events of older adulthood, perceptions of older adulthood held during middle age, a comparison of these perceptions with the experience of older adulthood, and positive and negative aspects of their older adult experience. Interviewers encouraged the participants to describe their experience in their own language and within the context of their whole life story. All interviews were audiotaped for transcription and coding.

The transcripts were analyzed by the interviewers and the principal investigator to identify common events and changes described by the participants and were compared with the field notes of the interviewers in order to insure the accuracy of the coding. The transcripts and field notes of the interviewers were also coded according to the sequence or time frame in which the events or changes occurred. Following this stage of data analysis, the events were arranged according to sequential categories which provided the basis for the developmental framework.

Each period was then examined to identify (a) the tasks required by the events and changes in that period and (b) the learning needs which were "triggered" by or related to those tasks. As the basis for identifying learning needs, the literature describing the educational needs of older adults was reviewed.

Participants

Participants were chosen to be representative of the older adult population by arranging interviews at a variety of settings in a midwestern city. These included 6 private residences, 5 senior and adult learning centers, and 1 nursing home; 43% of the participants lived in a nursing home and 57% lived in their own homes and apartments. Of the 70 participants, 70% were female. Ages ranged from 61 to 94; the mean age was 78. Most (78%) had been employed in nonprofessional occupations prior to retirement. The mean level of educational attainment of subjects was the 12th grade. When describing their health, 25% said it was "not so good," 40% said "somewhat good," and 35% said "very good."

Findings

The empirical data yielded descriptions of major changes and transitions, significant losses, the establishment of new goals and activities during older adulthood, and discussions of the contexts in which they occurred. The activities and experiences of the older adults interviewed fall into five periods following retirement. For each, the experiences, tasks, and learning needs are identified.

Planning for Retirement

Although approximately two-thirds of the persons interviewed had not thought about retirement during their working years, much less planned for it, about one-sixth of those interviewed described general expectations for their retirement, such as traveling, buying land, learning a hobby, gardening, etc. For some, retirement came unexpectedly; for others, although it had been expected, preparation had not occurred.

The principal tasks which emerged from the narrative include setting retirement goals; preparing for use of leisure time; preparing for the aging of body, mind, and spirit; and preparing for changes in health, income, and personal relationships.

Learning needs related to these tasks include

How to set and achieve retirement goals.
How to make constructive and fulfilling use of leisure time.
How to cope with aging.
How to maintain good physical health.
How to manage changes in income.
How to anticipate and cope with changes in personal relationships.

First Period: Continuity with Middle Adulthood

Peck's (1956) assertion that middle age is on a continuum that leads to old age is born out in the retirement agendas of persons interviewed. Those who had thought about retirement saw it as a time of continuity with middle age, but without the burden of employment. Work was replaced by relaxation, sleeping late, travel, and activities ranging from golf to gardening for which there had not been time during the working years.

The plans which most persons had for retirement were limited to this period. Therefore it resembled middle age without work, at least for men and women employed outside the home. Principal tasks included maintaining the activities and relationships of middle age, establishing goals and activities for retirement living, pursuing goals and activities for retirement living, replacing work with other activities, maintaining personal health, and creating new relationships. These initial older adult years continued many of the interests and activities of middle age and provided a time of stability following the retirement transition; they continued for varying lengths of time until interrupted by events which forced a lifestyle change.

Learning needs related to these tasks include

How to cope with changes in employment status and use of time.
How to set retirement goals.
How to achieve retirement goals.
How to select and participate in new activities.
How to keep physically fit amid bodily aging and changing lifestyle.
How to establish positive interpersonal relationships.

Second Period: The Early Transition

The most common events initiating this first transition were the death of a spouse and/or the need to relocate. Other elements in this transition included changes (decreases or increases) in income, changes in personal relationships, changes in health status, and heightened concern for the well-being of spouses. Personal losses combined with relocation often prompted discussions of loneliness and the admission that activities were chosen principally for socialization benefits. For most older adults, this transition involved an adaptation to events which interrupted an extended middle age, especially losses such as health, home, spouse, and income. These transitional events precipitated an adaptive process in which alternative sources of need satisfaction were selected and integrated into persons' lifestyles (Clark and Anderson, 1967).

Principal tasks include adapting to the death of a spouse, adapting to changes in personal health, adapting to relocation, adapting to changes in income, adapting to changes in relationships, and reassessment of retirement needs and goals. During this transition and the subsequent period, many of the tasks identified by Havighurst (1953) were completed.

Learning needs related to these tasks include

How to cope with the death of a spouse.
How to adjust to changes in personal health.
How to choose and secure appropriate housing.
How to maintain a chosen lifestyle on various levels of income.
How to maintain present interpersonal relationships and develop new ones.
How to examine present needs and establish new retirement goals.

Third Period: A Revised Lifestyle

The content of the revised lifestyle based on revised goals and activities was highly individualized. For the most part, following the first transition, persons still exercised independence and control of their lives, and despite the various levels of trauma associated with the transition, adapted to it. Many engaged in the same kinds of activities as before; others identified new needs - particularly for socializing and fulfilling activities - and engaged in pursuits to respond to these needs. Most activities maintained continuity with the past and at the same time addressed the new goals and needs of this period.

Principal tasks included the establishment of revised goals and activities, development of a revised lifestyle, creation of new relationships, participation in satisfying activities, and establishing an affiliation with the older age group in response to the need for socialization.

Learning needs related to these tasks include

How to implement personal goals.
Understanding lifestyle options available to individual older adults.
How to select satisfying activities.
How to develop new friendships.
How to identify and participate in new social groups.

Fourth Period: The Later Transition

The relative stability of the revised lifestyle of the third period concluded with events which required further adaptation and resulted in a new set of goals and activities. Principal events precipitating the later transition were the loss of health and mobility. At this time, concern focused on the older adult's well-being and capacity to continue to care for him/herself. This change from independence to dependence resulted in a loss of autonomy. For some the transition was voluntary; for most, however, the transition comprised of losses which had already occurred: interviewees spoke of disabilities, illnesses, and accidents which made it impossible for them to live independently. For many, with the transition came their introduction into an environment of various levels of care.

Older adults were once again challenged to revise their goals and activities. In this period, persons performed tasks such as adapting to the loss of personal health, mobility, independence, to the inability to care for themselves, and to the increased need for care from others. They also reassessed their retirement needs and goals.

Learning needs related to these tasks include

How to cope with limited mobility.
How to cope with physical limitations.
How to cope with limited autonomy.
How to adjust to receipt of care from other.
How to examines present needs and establish new retirement goals.

Fifth Period: The Final Period

The period of stability following the later transition again provided the opportunity for the implementation of revised goals and activities. A sense of finitude prevailed and the loss of family and friends through death was particularly painful. Nursing home residents also spoke of the care which allowed them freedom from worry and made it possible for them to continue to function. For most, it was a time of limited mobility requiring increasing levels of care. It was during this period and the preceding transition that interviewees spoke most often of their own death. New relationships substituted for earlier friendships; individual activities, such as reading, together with the activities planned by caregivers, made it possible for older adults to enjoy some measure of fulfillment during this period, which for most had continued over a number of years and would end in a final and ultimate transition.

Principal tasks included implementing revised goals and activities, living in an environment of increased need for care, and coming to terms with one's finitude in, as Levinson (1978, p.39) describes, "an ultimate involvement with the self."

Learning needs related to these tasks include

How to select satisfying activities and relationships appropriate to this period.
How to develop positive self-regard amid increasing dependency.
How to affirm one's life in anticipation of death.

Discussion

Events described by the interviewees depicted a developmental process in which periods of stability were followed by transitions, similar to the format presented by Levinson (1978). Deviation from the pattern occurred as the result of two main factors: first, the *development of men and women who worked outside the home seemed to differ from* that of persons who did not. Women who had been lifetime homemakers continued to perform homemaking chores until they were no longer able to care for themselves. Second, the periods are age-independent. In some instances, persons died before completing all five periods; in others, the death of a spouse or the onset of serious illness within months of retirement precipitated an early entrance into the Early Transition period. For some, acute illness during the Continuity with Middle Age period accelerated movement directly to the Later Transition period. For others, the Continuity period was extended well into their seventies.

The similarity of learning needs across the periods suggests that there may be a learning agenda which remains constant across the older adult lifespan but which is strongly contextual in that this agenda is shaped by the period in which it occurs. For example, goal setting when a person first retires is markedly different from goal setting when one enters a nursing home. Similarly, enlarging one's group of friends at the onset of retirement assumes different dimensions from developing relationships at a later period.

One may conclude that the single lists of learning needs of older adults, such as those developed by McClusky (n.d.), Leclerc (1985), and others are limited not so much by their specific content as by the absence of a recognition that each need is greatly shaped by their occurrence in a particular developmental period in the older adult lifespan.

Implications for Practice

This study aids in understanding the developmental changes which older adults experience and the learning needs which are associated with the tasks performed during each of the five periods. These findings can assist adult educators and educational gerontologists in the following ways:

1. The framework may assist practitioners to identify those developmental differences present in the older adult population and to target programs more precisely to the educational needs of discrete subpopulations of older adults on the basis of their development.

2. This study provides a foundation upon which to build programs to assist older adults to optimize change by preparing them to anticipate transitional events, to cope with developmental change, and to develop revised goals and activities in response to these transitions. Educators can assist older adults to be both proactive in anticipating and preparing for developmental change and reactive in adapting to it.

3. This study calls attention to the importance of the constantly changing developmental context in which older adults live. The continuing need to reexamine goals and activities and redefine one's lifestyle provides the educator with opportunities for relevant programs and continued support for members of the older adult population.

References will be provided upon request.

LEARNING STRATEGIES FOR ADULT BASIC EDUCATION STUDENTS

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Abstract

Low levels of attrition and retention, changing definitions of functional literacy, and the revision of the GED test direct attention to the absence of conceptual frameworks or diagnostic instruments by which to analyze or develop effective learning strategies useful to all ABE students. This paper reviews existing learning strategy research and relevant adult basic education literature in order to identify promising approaches to the development of more successful learning strategies among low literate adults. Learning strategy researchers have focused on various affective, cognitive and metacognitive skills useful in developing effective learning strategies; in contrast, the adult basic education literature has concentrated on developing and maintaining the ability of the instructional staff to create the appropriate learning environment to enhance the basic skills acquisition of adult basic education students. The adult basic education literature has also been dominated by a concern with teaching styles, instructional strategies, and self-directed learning.

LEARNING STRATEGIES FOR ADULT BASIC EDUCATION STUDENTS

The Problem

In 1980, fewer than half of those taking the GED examination attended classes; additionally, when low-literate adults attend literacy classes, their stay is likely to be short-lived. Research on attendance and attrition often connects these problems to demographic variables such as race or educational attainment rather than to learning process variables such as the students' learning strategies.

The literature describes how adult basic education students may be understood as products of school programs which were unproductive where students used learning strategies which were ineffective. Even when students are introduced to new educational institutions, they seldom get directed training and practice in developing learning strategies. Therefore they continue to use ineffective strategies from the past. Furthermore, students possess theories of intelligence and learning which often involve the notion that failure to learn is the result of low innate ability or insufficient effort. Therefore, they attribute their failure to stable, unchangeable factors over which they have no control. Unless serious attention is given to teaching students basic learning strategy skills, they may be destined to continue to experience educational failure.

These problems traditionally attendant to adult basic education programs are being exacerbated by two current phenomena: one is the use of constantly changing context-specific definitions of functional literacy. Definitions of functional literacy have evolved from concepts which suggest that literacy is the application of reading and writing skills towards attaining goals which have "survival" value within specific socio-cultural contexts such as using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential (Ehringhaus, 1990).

The second is the revision of the General Education Development (GED) examination. When compared to previous forms of the test, the new tests demand a greater degree of high-level cognitive reasoning (thinking skills) from the examinees. In addition, they require a more extensive use of the educational skills in contexts and settings familiar to the adult examinees, portray the global nature of problems spanning the social studies and sciences, and reflect the rapidly changing impact of technology on our everyday world (Whitney, 1989).

In the face of such problems, experienced ABE teachers are aware intuitively that different students use different strategies to learn, and that some strategies are more effective than others in achieving learning goals. Beyond their experience and intuition, however, little assistance has been provided by educators in ABE programs to aid students in this area. That is, no conceptual frameworks or instruments currently exist by which to analyze or develop effective learning strategies useful to all ABE students.

This paper seeks to 1) review and summarize existing learning strategy research which may provide insight into strategies useful to adult basic education students; 2) review and summarize relevant adult basic education research which relates to learning strategies of low literate adults; and 3) identify research-based approaches which assist students to become aware of alternative ways of approaching learning situations and of options other than increasing or decreasing their effort to develop more successful learning strategies.

Overview of Learning Strategies Research

For the purpose of this paper, learning strategies are defined as the conscious thoughts, behaviors, or activities initiated by a learner intended to influence how the learner processes information. For most learners, they represent modes of learning selected from among several alternatives. Within this broader definition, individual researchers have emphasized particular components and created finer distinctions.

Basic elements upon which learning strategies are built include a student's perception of the nature of learning, of the context in which it occurs, of the purpose for which it is intended, and of decisions made to choose to employ particular strategies (from a range of alternatives) at a particular time. Several organizational schemes have been created to classify learning strategies among elementary, secondary, and college students.

Since much of the literature on learning strategies has been produced by researchers oriented toward cognitive learning theory, the focus of learning strategies has been on effective knowledge acquisition, storage, and use. Mayer (1988) relates learning strategies to four components of learning: instruction (any sequence of events intended to help a person learn), learning process (memory store and controls), learning outcomes (differences in the learner's cognitive processes), and performance (observable quantitative and qualitative differences in the learner's post task performance). He describes the essential learning process as comprising attention, rehearsal, encoding, and retrieval. Both qualitative and quantitative analyses have been used to study these processes. According to Mayer, the quantitative model suggests that the amount of attention paid, the amount of rehearsal and the strength of encoding can each affect how much is learned. This model focuses on the amount of effort expended, the amount of work completed, and the speed with which functions are performed. The qualitative model, on the other hand, emphasizes the selection of appropriate information in the attention phase, rehearsal processes which enhance internal connections, and encoding processes which encourage the integration of new information with existing knowledge. Students learn to manipulate these respective cognitive processes by learning techniques for selecting information and for building internal and external connections.

Reynolds and Shirey (1988) focus particularly on the role of attention, that is, the identification of important text elements, attending to those text elements, and monitoring whether learning task demands are being met. These researchers identify learning techniques which assist in the achievement of each of these aspects of attention and affirm that the monitoring function, metacognition, is the key to transforming attention into effective learning.

Dansereau (1988) uses cooperative learning strategies, especially oral summaries, monitoring, feedback, and facilitative and elaborative activity between students as ways to increase learning of specific text material and to transfer learning to other materials and situations. The emphasis on metacognitive activity in the cooperative learning setting is judged to aid learning performance.

Garner (1988) uses think-aloud procedures, stimulated recall, peer tutoring, and interviews to teach children the use of metacognitive activity to monitor the selection and use of alternative learning strategies, emphasizing both how and when to use a particular strategy.

Several approaches consider the relationship between the cognitive and affective dimensions of learning strategies. Some theorists have linked learning strategies to the student's perception of the learning task, distinguishing between lower order or memory-directed (memorization and acquisition of facts) and higher order or comprehension-directed (abstraction of meaning, the interrelationships of ideas, and understanding of reality) learning objectives. The student's perception of the learning task influences whether surface or deep level processing of the material occurs (Van Rossum and Schenk, 1984). Others have connected learning strategies with the student's perception of the nature of intelligence, whether it is a fixed or malleable trait, claiming that this perception leads to an orientation focused on performance goals as distinguished from learning goals (Dweck, 1986).

McCombs (1988) describes these affective issues as "processes that mediate learning and achievement...[including] motivation, belief systems, perceptions, expectations, and attributions" (p. 142). She also distinguishes between skills and the will required to use appropriate learning strategies, affirming that it is "the self-controlled and self-motivated learner...who can plan, regulate, and evaluate his or her own skills and strategies" (p. 142). Several researchers (White, 1959; Harter, 1982) contend that perceptions of competence and control which lead to a sense of self-worth rather than the learning itself provide the basis for motivation.

McCombs contrasts "motivation theory and self-efficacy theory, both of which assume that the underlying motivators of human behavior are perceptions of personal control and competency" with attribution theory which assumes "that the underlying motivator of human behavior is the search for a causal understanding of failures" (1988, p. 146).

Palmer and Goetz (1988) claim that student attributions of the effort required by a strategy, of their own level of competence in achieving a particular goal, of the match between their own competencies and those required by a particular strategy, and of the likelihood that the use of a particular learning strategy will be instrumental in obtaining a particular learning outcome, all affect the use of learning strategies. Students' perceptions of the attributes of a learning task, of learning strategies, and of their own attributes as learners all influence the learner's decision to use a learning strategy. Accordingly, "learners who have low expectations for future performance, who are anxious and self-critical about their performance, who do not initiate studying efforts or fail to persist in these efforts, and who attempt tasks in which study strategies have limited chance of success are less likely to use effective strategies" (p. 49). Similarly, Weiner (1979) categorized the learner attributions underlying the use of learning strategies in terms of learner's ability, the effort required by the learning strategy, and the level of difficulty of the learning task.

Weinstein, Goetz, and Alexander (1988) have identified three critical issues in the study of learning strategies: assessment of an individual's strategic behavior, delivery of strategy instruction, and evaluation of strategy instruction and research. In this regard, Weinstein, Zimmerman, and Palmer (1988) reviewed instruments available for assessing learning strategies to find that most instruments are limited to assessment of traditional areas, such as notetaking, time management, work habits, and student attitudes. Most identify behaviors which are related to successful studying, but ignore information about how a student learns. In their review, they found a consistent definition of learning strategies to be absent and noted limited reliability and validity indices available for most instruments and their subscales. In their own research, Weinstein and her colleagues identified ten areas within which to measure learning strategies: anxiety, attitude, concentration, information gathering, motivation, scheduling, selecting main ideas, self-testing, study aids, and test strategies. This 77 item instrument, designed for college students and tested for validity and reliability with that population, was named the Learning and Study Strategies Inventory (LASSI). Similarly, the "Motivated Strategies for Learning Questionnaire" (Pintrick, McKeachie, Smith, Doljanac, Lin, Naveh-Benjamin, Crooks, & Karabenick, 1988), an instrument of 131 items was organized into three scales examining motivation, cognition, and resource management to study the same population.

With a goal of developing and using effective learning strategies, researchers have examined various affective, cognitive, and metacognitive skills; they have also developed assessment tools and instructional paradigms to facilitate the achievement of that goal.

Overview of Relevant Adult Basic Education Research

In contrast to the research and theory efforts apparent in the learning strategies literature, the literature on adult literacy education has been concentrated on developing and maintaining the ability of the instructional staff to create the appropriate learning environment for the mastery of academic skills, e.g., reading, writing, and computing. Subsequently, a focus on teaching styles, instructional strategies, and self-directed learning has dominated the adult literacy literature. In this regard, the literature in adult literacy has paralleled the literature in the general field of adult education (Fisher and Martin, 1987).

In examining the relationship between teaching style and adult student learning, Conti (1985) argued that despite the existence of divergent teaching styles, a significantly large portion of adult education literature supports the collaborative mode as the most effective and appropriate style for teaching adults. Collectively this body of literature argues that the curriculum should be learner-centered; learning episodes should capitalize on the learner's experience; adults are self-directed; learners should participate in needs diagnosis, goals formation, and outcomes evaluation; adults are more problem-centered than either children or youth; and teachers should serve as facilitators rather than repositories of facts.

The major finding of the study was that a relationship exists between the teaching style used in the adult education setting and student achievement. However, contrary to the expectations established by the adult education literature, this study found that GED students learned more in a teacher-centered, as opposed to a learner-centered, environment. Conti (1985) reasoned that because GED students tend to be goal-oriented and are focused on the immediate task of passing the GED examination, programs might correctly meet their needs by creating a structured learning environment where the objective of passing the GED test is clearly delineated and human resources are available to provide immediate feedback related to goal progress. Another finding was that basic level and ESL students who worked with collaborative teachers tended to achieve more than those who experienced a highly teacher-centered environment. For these students Conti (1985) argued that the goal is to improve skills related to reading, mathematics, and English proficiency. Due to beginning deficiencies among entry-level students, this is a lone term process. In addition, the skills acquired in this setting are not merely vehicles to certification, but are also related to the person's self-concept, influencing both the way people see themselves and the way they perceive others seeing them. Risk taking for personal exploration requires a supportive environment. The teacher is crucial to this process, and student involvement is dependent upon teacher acceptance.

The focus of instructional strategies in adult literacy education is primarily centered around those instructional methods and techniques that assist students in mastering basic skills. Only a limited number of articles were discovered which facilitated the instruction of strategies to assist students in mastering learning strategies. Additionally, those instructional strategies discussed in the literature tended to be based less on the results of research than upon anecdotal information and practice-related theories. For example, Boraks and Richardson (1985) identified eight principles for teaching the adult beginning reader. Each principle was based on classical, established, or new research and learning theory related to the adult reader.

Although the focus of the instructional strategies discussed by Boraks and Richardson (1985) was on principles for teaching adult beginning readers, in other adult literacy publications the focus has been on more specific academic skills. For example, Grubaugh (1983) argued that instead of relying on the incidental exposure to words in the educational setting, teachers of adults should deliberately plan to teach vocabulary words. He therefore reviewed numerous meaning-based vocabulary methods that utilize comparing, contracting, making analogies, or developing examples of concepts, and related them to the adult basic education setting. Suggestions have also been made by other authors for improving writing instruction for adults (Padak and Padak, 1988) and remediating math anxiety in adults (Wilson and Wilson, 1984).

Only a limited number of authors have discussed instructional strategies from the perspective of facilitating the mastery of learning strategies by students. In a recent publication Handler (1990) suggested that cognitive research can be used to strengthen educational programs for adults because it provides an important perspective by showing how students can learn to be much more effective thinkers while acquiring the knowledge needed for success in the 21st century. He suggested that adult educators must use instructional strategies that favor the growth of generative, not static, knowledge; design math programs that help adults learn to give logical reasons, make inferences, recognize relationships, and generate alternative solutions; provide strategies for motivating learners to continue to think, write, and try even in difficult circumstances; and use social communities to foster shared responsibilities for making progress in learning.

In other publications, Norman and Malicky (1987) and Malicky and Norman (1989) have explored reading concepts and strategies of adult literacy students. In the first publication they analyzed the stages of reading development of adults. They found that two stages existed across a sample of adults reading at grade levels 1-8 in a variety of literacy programs. In the first stage, at reading grade levels 1-3, the adults relied equally on print-based and knowledge-based strategies as they read. The second stage (grade levels 4-8) was indicated by a marked increase in the use of language knowledge, with little change in the use of print-based cues. In the second publication, they explored the nature of illiteracy for adults who have made no or minimal progress in learning to read or write for the purpose of drawing implications for planning effective programs for them. They found that there was a trend towards greater use of knowledge-based strategies on predictable and language experience stories than on unpredictable unfamiliar passages. They therefore suggested that literacy programs should begin with and take advantage of what the adults already know via material conducive to the use of knowledge-based strategies, e.g., language experience and predictable passages.

In contrast to the other areas of interest in learning strategies research, the research on self-directed learning was most likely the chief growth area in the general field of adult education during the decade of the 70s (Brookfield, 1984). Tough (1971) identified thirteen steps in planning that the learner sometimes takes in a self-planned project: identifying in detail what is to be learned, resources and methods for learning, time devoted to the effort, where to learn, place of learning, deadline for completion, etc. As observed by Spear and Mocker (1984) there is an implicit suggestion that self-directed learners usually act on their own behalf in organizing and controlling a linear process to acquire the anticipated knowledge. However, in their research with 78 self-directed learners with less than high school completion, they failed to find evidence that the learners did preplanning regarding the use of human and nonhuman resources, sequencing of content, or location of learning; yet the learners' efforts could not be characterized as random or nonrandom. There was evidence that the "organizing circumstance" rather than preplanning was the directing force behind much of the self-directed learning for this population. Spear and Mocker (1984) identified four major patterns of organizing circumstances which affect the learning process for self-directed learners: single event/anticipated learning, single event/unanticipated learning, series of events/related learning, and series of events/unrelated learning.

Assisting Adult Basic Education Students to Improve Learning Strategies

Currently most instruction or training in the use of effective learning strategies occurs with elementary, secondary, and postsecondary students. Depending on the students involved, some methods incorporate this instruction within existing print material and workbooks. Another approach uses existing instructional settings to teach learning strategies along with the regular class content. Many teach learning strategies in the form of supplementary instructional experiences, such as workshops or short courses.

These two approaches are currently being practice in adult basic education programs. Curricular materials have begun to incorporate materials which lead students in the analysis of their problem-solving techniques, for example. In order for either of these approaches to come to effective fruition in adult basic education, teachers must be taught to incorporate instruction about learning strategies in their teaching processes.

Although the educational goals of these student populations may be different from those engaged in adult basic education, the emphases around which learning strategy instruction is organized may also be useful for adult basic educators. The first emphasis focuses on affective skills: the development of perceptions of personal control and self-efficacy, the assimilation of self-development skills which lead a learner to assume personal responsibility for learning, the transformation of negative attitudes about oneself contribute to motivation for learning and increase the potential for the use of appropriate learning strategies (McCombs, 1988).

The second emphasis is on the development of cognitive and metacognitive processes. Weinstein (1988) organized a supplementary course for college students around the following broad topical areas: Successful Learning; Time Management; Problem Solving; Cognitive Learning Strategies; Concentration; Listening; Selecting Important Ideas; Note Taking; Text-Marking and Outlining; Pre-, During-, and Post-Reading Strategies; Reading Comprehension / Comprehension Monitoring; Stress, Sanity, and Survival in Academia; Test-Taking Skills; and Reducing Test Anxiety.

In contrast, currently the dominant emphasis in adult basic education is on enhancing the basic skills acquisition of adult basic education students.

References available upon request.

Strengthening Relationships Between The Missouri Valley Adult Education Association and the Seven States Comprising the Association

An Evaluation Study

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Abstract

The Missouri Valley Adult Education Association (MVAEA) set the goal of strengthening relationships between the seven states comprising the association and the MVAEA. In addition, goal setting and long range planning was to take place. A Future Directions committee was established by the board to develop a means of gathering input from the association's more than 500 members concerning their views of the field of adult and continuing education, the association, and how it could serve them. In addition, information was gathered from other association activities, examined for common themes, and shared with the board of directors for prioritizing and the development of recommendations. These recommendations then were shared with the new board and officers to provide the basis for long range planning. This evaluation study examines the entire process and explores its value for building relationships and providing continuity in large, voluntary associations with leadership that changes annually.

Strengthening Relationships Between the Missouri Valley Adult Education Association and the Seven States Comprising the Association

An Evaluation Study

The Missouri Valley Adult Education Association (MVAEA). founded in 1938 is the oldest and largest regional adult education association in the nation. It boasts a current membership of 560 members in the seven states that comprise the MVAEA. These include North and South Dakota. Nebraska. Iowa. Kansas. Missouri and Minnesota. As is typical of many adult education associations. its membership represents teachers. administrators. volunteers. faculty members. and many other occupational fields such as business. health. adult basic education. higher education. public school programs. and a variety of governmental organizations. MVAEA is an entirely volunteer organization that is supported by membership dues and conference revenues: its leadership is elected annually. The elected. voting board consists of a representative from each of the seven states and the officers which include the president. the president-elect. the past president. the secretary and the treasurer. Nonvoting board members include the membership chair. the publications editor and the historian. In addition. chairs of special appointed committees may serve on the board.

The Problem

Voluntary professional associations may have large memberships and in such large organizations. an executive or leadership structure often knows relatively little about that membership. The MVAEA with its more than 500 members is no exception as the association has more than doubled its membership in three years. Also. the seven state associations and their members are very important to the larger association and the quality of relationships between the seven states and the MVAEA had become a priority for the association. In addition . the association's leadership changes annually. These facts made the need for long range planning and identifying future directions for the association apparent. Accordingly. in 1989 the MVAEA's new president set as the association's major goal for the board "the strengthening of relationships among the seven states in the MVAEA" as well as future planning efforts based on this goal. In light of this goal. the need for information about the membership and their views of the association as well as a means of gathering such information also became a priority.

Focus and Methodology

Clearly. one important way to strengthen relationships among the seven states was to ask the membership for their suggestions about how to do so. Thus the major focus in gathering information was on the membership. A number of strategies were developed to accomplish the goal of strengthening relationships and for getting the information needed to do so.

One of the initial steps for gathering information was establishing an MVAEA Future Directions committee. The purpose of the Future Directions committee was to provide the MVAEA board with the information necessary to do goal determination, prioritizing and long range planning. The committee consisted of representatives from each of the seven states in the MVAEA and a chairperson appointed by the president. The committee members were recommended by the seven elected state representatives to the board and were appointed to the committee by the president of the association. Initially, several of the state representatives to the board indicated that they were willing to be the representative to the Future Directions committee from their state. The president reasoned,however, that part of strengthening relationships had to do with involving more people from the states. Therefore, other Future Directions committee members were sought.

The Future Directions committee's primary goal was to develop and carry out a means of determining from the membership how the association could better serve its members. In addition, there was interest in learning what changes MVAEA members saw as needed or desirable in the field of adult and continuing education as well as their perception of how MVAEA should respond with regard to the expected or desired changes. It was judged important that the process employed allow for wide participation of the membership in the governance of the Missouri Valley Adult Education Association. Accordingly, members were given an opportunity for input into the decision making process by making their views known to the board.

Several methodologies were employed for gathering information. The first was the development and administration of a questionnaire, which was mailed to each member of the MVAEA with a cover letter from the president. The members of the Future Directions committee also used the same questionnaire in a telephone interview process. Each committee member was asked to draw a sample of members from their state that was as representative as possible of all parts of the state and that provided a good cross section of the variety of professional involvements that the membership has in adult and continuing education. Each committee member was asked to contact at least 12 members or 10% of the membership in their state, whichever was greater. To encourage members to respond to the questionnaire, articles were run in the MVAEA newsletter, "Happenings in the Valley" to inform the membership about the purpose and goals of the Future Directions committee and that they would be receiving a questionnaire in the mail or possibly a phone call. Their participation and assistance was requested.

The Questionnaire

The questionnaire posed the following questions: What suggestions do you have for strengthening relationships between the MVAEA and the states?, What do you expect from MVAEA?, How may the association help you?, Do you feel that any changes are needed in MVAEA?, What changes would you like to see in the field of adult education?, And What might the MVAEA do to facilitate such changes?The questionnaire was sent by first class mail to the association's 500 members (at the time of the survey). The response to the mail distribution of the questionnaire was 57 returned or 11.4% An additional 82 members (16.4% of total membership) were contacted in the telephone survey. Thus, the total number of members contacted was 139 or 27.8% of the membership. The number of responses by state is depicted in figure 1.

While the mail and phone questionnaires were a major source of information, several other association activities also provided data. A second major method of gathering information was from the state caucuses at the 1989 annual MVAEA conference. Participants from each of the seven states were asked to submit ideas about strengthening relationships between each of their states and the MVAEA. Third, information also was gathered from participants in the association's 1989 annual Leadership Academy. Thirty members of the MVAEA who were in leadership positions in their state associations were participants in the Academy. This group was asked, among other things, how an "ideal" Missouri Valley Adult Education Association might be characterized. Finally, information was also gathered from visits the association president made to six of the seven states that comprise the MVAEA.

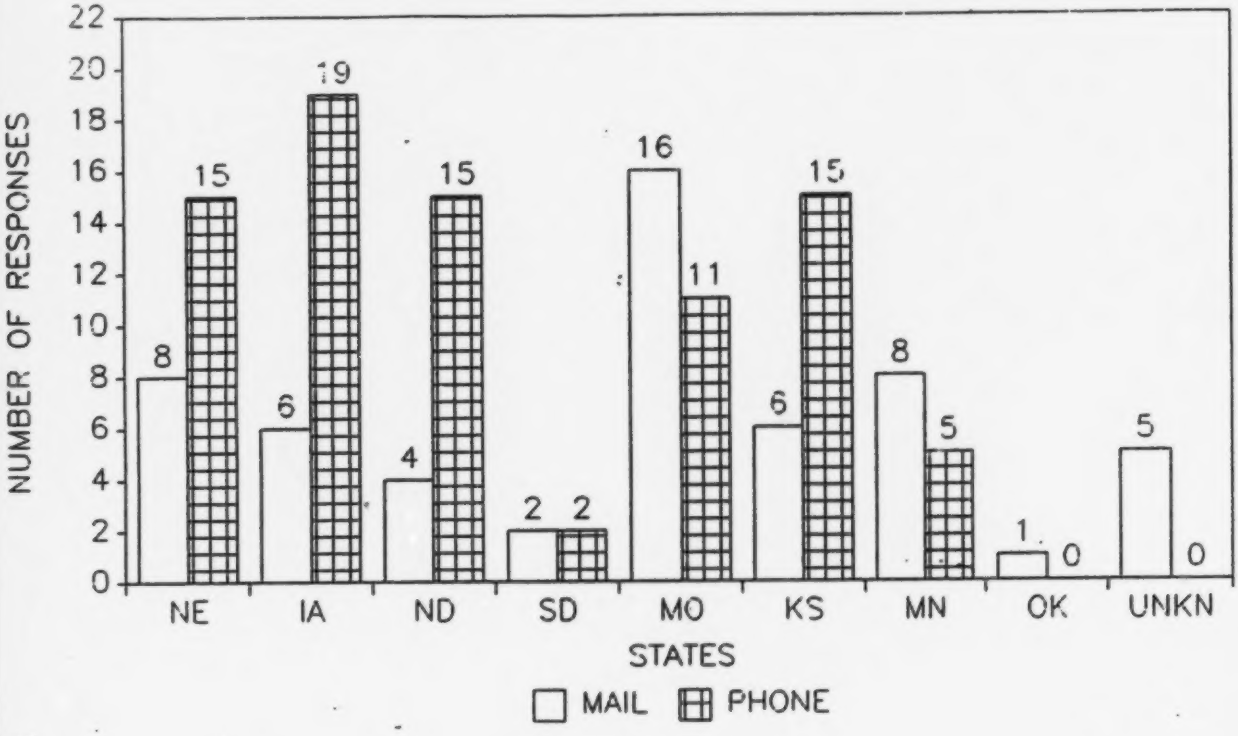
Data Analysis

The data from these four sources of information (the questionnaire, state caucus input, leadership academy response, and presidential visits) were summarized and examined for common themes. The responses to the mail questionnaire, for example, were organized question by question. Each Future Directions committee member who carried out the telephone survey summarized the responses to each of the questions. Notes from the state caucuses at the annual conference and from the leadership academy exercise were similarly summarized. The president also provided summary notes from her state visits and her impressions of discussions with state leaders.

Once this material was available, a special meeting of the MVAEA board was set and prior to this meeting, all survey material was sent to the board. At this special board meeting, members of the board were divided into two groups and each group was asked to determine , through a consensus process, the most important themes from the 31 that emerged from the various sources mentioned above. A process of voting would have meant that there would be a majority and a minority position and since the president hoped for as close to total agreement as possible, a consensus process was used so that there would be general agreement with the resulting priorities. Each group was asked to select their top six priorities among the themes. For five of the six priorities selected, the two groups were in agreement. The groups then came together to discuss their respective selections and consensus was reached with regard to a sixth priority. The next step was to develop recommendations relating to those priorities. Two priorities were assigned to each of three groups of four board members each. Each group was asked to develop recommendations for each of the priority areas assigned to it, and the president presented recommendations relating to two additional priority areas. The resulting recommendations then were forwarded to the incoming board to guide its long range planning efforts.

Figure 1

State Responses to Mail and Telephone Survey



Value of the Process

The important aspect of the approaches used in this study is that they were applied in a relatively large association to make sure that the members had an opportunity to help its leadership shape the future of the organization. Not only did the process expand the number of people who now were involved with the organization, but it clearly demonstrated the leadership's interest in the membership's views and opinions. More importantly, perhaps, was the fact that the process served to unify individual states with the regional association. The process of involving as many people as possible is particularly important because the leadership of such organizations changes from year to year, and this type of evaluation facilitates long range planning. Further, since one of the stated functions of such organizations is to provide opportunities for professional growth, a method that involves many persons in assessing the membership's needs and interests is critical.

The information gathered provides very valuable input or the association and allows planning to go forward based on real information rather than supposition. The responses also served to demonstrate that even though the membership is involved in a wide variety of professional pursuits within the field of adult education, they seem to share very similar concerns and interests. It also serves to bring together not only the membership of an organization, but a variety of the activities of an organization that might otherwise seem unrelated.

Our judgement is that the process was a healthy one for the Missouri Valley Adult Education Association. While the responses to the various means of data gathering are important information for the association, the value of the process in terms of strengthening relationships between the seven states and the association and the opportunity it provided for professional development and collegial interaction made the undertaking especially worthwhile.

With regard to the future, in addition to demonstrating that good information could be generated by this process, it appears to be a positive means for helping the association make its long range planning efforts consistent. Certainly, such facts as the volunteer nature of the organization, its growing membership and its changing leadership speak to the need for the planning process to be ongoing and as broad based as possible.

A GRADUATE ADULT EDUCATION PROGRAM LONG-TERM IMPACT EVALUATION

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Abstract:

The information explosion in our technologically oriented society has brought with it a shortened time span of cultural and factual knowledge change in each succeeding decade. Thus, professionals being educated in graduate Adult Education/Human Resources Development programs as teachers and for other roles need a lifelong learning perspective to prevent their becoming obsolete. These graduate programs have increased in North America from approximately thirty in 1960 to more than three hundred in 1990. However, a question remains for those who seek to serve these needs. How will the long-term impact of these graduate programs be measured, determined and evaluated? One program has sought to answer that major question. The University of Missouri-St. Louis has had competency-based adult education graduate offerings with nearly two hundred participants in less than a decade the graduate program has been actively in operation. A two-page "Impact Survey Report Form" was adapted and developed to include Kirkpatrick's evaluation paradigm of reaction, learning, behavior and results. One hundred eighty-six different participants were sent forms with seventy-five responding. Questions included: what they gained, applied, the value to them and others, skill practice adequacy, cost/benefit ratio, benefits resulting, how the course could be improved, people served weekly, space to describe something they used and the results, how the use of self-directed learning affected other courses or their career, if they used learning contracts in other courses and in other education situations with people with whom they worked, and how self-directed learning was accepted in those situations.

A GRADUATE ADULT EDUCATION PROGRAM LONG-TERM IMPACT EVALUATION

The information explosion in our technologically oriented society had brought with it a shortened time span of cultural change in each succeeding decade. Half of what we know as facts today will rapidly be replaced by new knowledge. Thus, professionals being educated in graduate adult education/human resource development programs as teachers and for other roles in adult, continuing and community education programs and corporate human resources development training programs need a lifelong learning perspective to prevent their becoming obsolete. Graduate adult education/resouce development programs in North America educate and train many of these people, and have rapidly grown in numbers in the last three decades, from approximately thirty in 1960 to more than three hundred in 1990.

Technological, economic, and demographic change, as well as other forces continually create new needs for learning and to improve the way adult education/human resource development (AE/HRD) professionals learn to teach the adult work force. Lifelong learning is mandatory not so much from a policy or legal standpoint but from the perspective of keeping up to date or not becoming obsolete in a world and era of fast paced change. Thus graduate programs designed to prepare AE/HRD professionals need to keep on the cutting edge of new developments in facilitating the teaching/learning transaction.

EVALUATION QUESTION AND FOCUS OF THE STUDY

However, a question remains for those who seek to serve these needs. How will the long-term impact of these graduate (AE/HRD) programs be measured, determined and evaluated? If one were to inquire of various professors, responsible for the conduct, evaluation and improvement of graduate (AE/HRD) programs, concerning how and what to evaluate, multiple answers would be forthcoming, few of which would focus on the long-term impact. But with the press today for accountability, demand for effective practice and "the bottom line," even within the academic setting, an answer needs to be developed to help these graduate programs educate and train personnel who are able to link research and theory with their practice.

METHODOLOGY

One program has sought to answer that major question posed above. In the few short years the adult education graduate courses at the University of Missouri-St. Louis have been offered and in operation, approximately eighty-five have been graduated with a masters or doctoral degree. The program has also served many special non-degree students who are interested in enrolling for one or more courses in adult education to help them become more competent in their work as adult educators without completing a degree. At present the program has grown to ninety-five active masters degree and thirty-one active doctoral students.

The objectives of the adult education emphasis and concentration are carried forward with the intention of equipping present and future professionals and paraprofessionals for new jobs and responsibilities who are competent and on "the cutting edge" of the future of adult education and human resources development. The definition in the program is that a competency is a cluster of knowledges, understandings, skills, attitudes, values, and interests that are necessary for the performance of a function.

Six graduate courses, each being three semester hours of credit, were included in the evaluation study. Their titles were: Adult Education 400-Learning How to Learn: Adult Style; Adult Education 412: Foundations of Adult Education; Adult Education 413: Improvement of Instruction in Adult Education; Adult Education 414: Curriculum Theory and Development in Adult Education; Education 415 and Adult Education 404: General Seminar and Emphasis Area Doctoral Seminar-Leadership in Adult Education; Adult Education 490: Internship in Adult Education.

EVALUATION DESIGN

Each course had finished the last session of the semester with a fairly typical end of course reaction evaluation form. A verbal critique is also conducted. One item calls for suggestions for improvement of the course. Each subsequent time a course is conducted some of the suggestions for improvement are implemented. Reactions are quite positive with the number of returning and new participants continuing to increase and to populate the courses and the program. However, the long-term effect some years late of what the participants have gained and are still using in their professional practice was the main concern which initiated this study. When the question of determining the effectiveness of the programs was raised, a second question needed to be answered: Effective in terms of what? Kirkpatrick's (1987) Four Step Paradigm helped develop the answer. Reaction indicated how well participants like the program. Learning targets the principles, facts and techniques to be acquired as well as the attitudes that changed. Behavior identifies the changes in job behavior which were implemented. Results encompass the tangible reduced cost, improved quality, improved quantity, etc. It was acknowledged as Kirkpatrick indicated, that in evaluation, evidence is much easier to obtain than proof. Thus, most of what could be obtained years later from participants evaluating this program would be evidence rather than proof.

A two-page Impact Survey Report Form was adapted and developed from literature in the adult, continuing and community education field of practice. A form was developed for each course with accompanying objectives. A demographic form was also attached. A cover letter was sent along with the forms to current and past participants from the program. They were requested to complete and return the form indicating their viewpoint of what and how these courses contributed to their professional practice and current delivery of services. A reminder card was sent three weeks after the original letter. A second letter and materials was sent three weeks after the card to those who had not responded. A personal evaluation interview was considered for a randomly selected group of participants and each of their bosses. This idea was later abandoned because added benefits from this step were not warranted by time and cost involved.

One hundred eighty six past participants from the program were sent requests for evaluation information. Seventy-five different participants responded with a total of two hundred and forty-six forms. The number of responses for each course were: ADU ED 400 28, ADU ED 412 72, ADU ED 49, ADU ED 414 50, EDUC 415 & ADU ED 404 23, and ADU ED 490 24.

EVALUATION RESULTS

The title and objectives of the two-page Impact Survey Report Forms were appropriate to each adult education graduate course under consideration at the University of Missouri-St. Louis.

Returns on the Impact Survey Report totaled 246 forms from 75 students who had completed graduate courses in adult education and/or who had completed a graduate degree. The returns on these indicated the following.

1. What they gained by taking part in these courses is indicated by the number of responses to each item.

198--Useful resource materials
176--New ideas to try
176--Insights from hearing what others are doing
168--Contact with other participants
161--Development of a new skill
148--Answers to questions
134--Reinforcement that you probably are doing things right
130--Contacts with experts in my field
94--Help in making a decision
8--Nothing much
7--Other: included increased knowledge, a new philosophy, new interest area, and improvement in how to write mutual objectives in a job setting.

2. With the Likert type scale of 1=Low, 3=Moderate, 5=High, participants awarded their overall median rating as 4.27 on the following fifteen items:

Median	Item
4.03	a. Amount of information that you actually applied and used?
4.10	b. Degree to which course gave practical skills you wanted to develop?
4.25	c. Degree to which course gave practical information you wanted to learn?
4.18	d. Degree to which course gave theoretical information you wanted to acquire?
4.27	e. Degree to which course has been of value to you?
3.92	f. Value to someone else (professional practice, employer, students, family)?
4.11	g. Adequacy of skill practice allowed for you to use it on your own (back on the job)?
4.46	h. Degree to which you liked this course?
4.32	i. Degree to which course met your expectations?
4.25	j. Degree procedures and conditions of the class helped you accomplish your goals?
4.29	k. Degree to which course met your needs?
4.41	l. Degree to which course held your interest?
4.39	m. Degree to which you benefited from group interaction?
4.68	n. Degree to which adult education principles were used?
4.46	o. Degree to which learning contract benefited your personal development?

3. Out of the one hundred fifty-seven responses to question three, almost seventy-three percent (116) said "Yes, definitely" that their gain from the program was worth the time and money they spent. More than twenty-two percent (33) said "Probably yes." Less than four percent (6) said, "Probably no." Just over one and one quarter percent (2) said, "Definitely no."

4. The benefits resulting from their use of the ideas from the courses included other things in addition to the Most Important ones of Personal Satisfication and Personal Confidence, as indicated by the number of responses on each item.

212--Personal satisfication
186--Personal confidence
166--Increased thinking ability
165--Greater skill
147--Better service to students
131--Better planning
120--Improved decision-making
107--Greater satisfaction from the people you serve
104--Better personnel relations
101--Better management
99--Better use of time
53--Improvements in community
52--Improved handling of regulations, forms, etc.
50--A new position or promotion
30--Increased income
9--Other

5. To the question, "How could this course be improved?" the answers indicated a desire for "smaller classes," "more preliminary information courses," "longer time for group presentations," "instructor to facilitate more," "having students identify before and after philosophy," "more enthusiasm and better attitude," "workshops," "introduce a breakdown of the learning contract," "more discussion of the texts," "toughter critiques," "more instructor feedback on learning contracts," "to leave the courses as they were since they were fantastic and could not be improved upon," and, "let other disciplines utilize more adult learning techniques."

To the question, "How could the Adult Education Program (Emphasis Area) be improved upon?" the answers included: "more assistance in the program," "more professors and instructors," "more detailed information to more people as to what the program is all about," "individual presentations," "higher profile for the program," "replace required secondary education courses with more adult education classes," "offer more of the courses in the summer," "keep courses in sequence," "program and courses as currently presented are excellent," "couldn't be improved-it is fantastic," and, "more networking opportunities to accomplish desired ends of adult education."

6. To the question of, "Approximately how many persons are served by the respondents during the average work week?", the answer was a total of 174,704.

7. This item asks respondents to "Please describe something that they used from the course and the results obtained." The answers are rich and varied, including:
-It helped me compose mutually understood annual goals in my work setting.
-I'm more able to initiate contracts with people because of the confidence building experiences in the class.
-Eduard C. Lindeman, an early adult educator, became a great influence in my life.
-Students are working more in groups and attempting to give input into solving problems on social issues in education.
-More ownership of the students in the course by using these techniques.
-Helped me to develop a philosophical basis for much of what I do, and allowed me to be able to express this rationale.

8. This question, "How the use of self-directed learning effected other courses or the person's career." To this the answers varied, and some included:
-Used with students in career planning.
-It has revolutionized the way I think.
-I feel I learned and retained more.
-This increased my desire for more knowledge.
-I ask more questions and read more.
-It has influenced me as a high school English teacher.
-I used self-directed learning with inmates.
-I am convinced I can learn anything and everything that I want or need to know.
-The program helped me indicate to my employer that I am trying to learn, keep up with changing times. Am ambitious and not content to "rest on my laurels."

9. To the question of whether they are using learning contracts in other courses there were ninety-six "Yes" responses and sixty-five "No" responses.

10. Eighty indicated they were not using learning/training contracts with people with whom they worked. Sixty-six responses indicated they were using learning/training contracts with people with whom they work.

Fifty-seven responses indicated no use of learning/training contracts in other education situations. Eighteen indicated use in other education situations, which included: in my daily work activities, training program for youth and personal planning for my internship.

FINDINGS AND IMPLICATIONS

Based on the report data from the Impact Survey Report Form, it seems safe to assume the graduate Adult Education courses at the University of Missouri-St. Louis have accrued some value in the lives work settings of the participants. In addition, the form can contribute to making sound program decisions, provide understanding of important benefits to participants, aid in clear reporting of results, help improve graduate preparation of scholars and practitioners, and be adapted and applied to use with a wide variety of professional groups and programs of long or short duration.

Additional information on results and a copy of the Impact Survey Report Form is available upon request from the author.

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FARM COMPUTER USE AND LEARNING STYLE

by

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Abstract

This study sought to determine in what ways learning style preferences affect computer learning among farmers. A survey instrument was sent to a random sample of 600 farmers who had purchased software from three major agricultural software vendors. Assuming learning to be reflected in use, the instrument sought to measure farm computer use (dependent variable), learning style (using Canfield Learning Style Inventory, Form O), and various background characteristics including how the farmer went about learning to use the computer. Those who returned the survey (63% of total sample) were divided into two groups based on whether they had taken a class on computers or not. Farmers who used their computers extensively in the group which took a class demonstrated less of an interest in learning by direct experience. Those who did not take a class, yet excelled, on the other hand, preferred independent learning and working with numbers. In both cases, men used computers more than women.

FARM COMPUTER USE AND LEARNING STYLE

Introduction

Learning to apply the microcomputer to farm management is a daunting task for most farmers. Success or failure in this endeavor is directly reflected in the extent of farm computer use. This study sought to elucidate the relationship between farmers' preferred learning styles and the degree to which they use their computers. The research, sponsored by a federal grant, was conducted at the University of Wisconsin - Madison, under the direction of Dr. Jerold W. Apps.

Background. Over the past decade a revolution of sorts has taken place. Individuals and small businesses around the world have begun to tap the potential of the computer. Originally the sole property of the large corporation and research institution, the computer has continued to reduce in size and price such that home computers are commonplace. The microcomputer industry has grown incredibly and computer literacy is no longer a novel subject in school curricula.

The trend has not gone unnoticed by farmers. Though perhaps slower to adopt this new technology for their operations, farmers have indeed become computer owners in large numbers in recent years. Despite financial woes, a recent survey in Ohio (Bowen, Miller, & Escolme, 1989) found almost one fifth of the farmers in that state owned computers. The Successful Farming Market Research Panel had similar results. They found in 1988 that 20.9% of farmers own or lease a computer and an additional 3.5% regularly use a computer belonging to someone else (Computer use on the farm, 1989, p.1).

Ownership does not necessarily indicate use, however. Many hurdles stand between possession and successful operation. Significant among the hurdles to be faced is the learning of software.

Farm computer use is a concern of many groups and individuals. In general, a computer can aid farm management and profitability immensely. Agricultural extension agents and others concerned with improving agriculture see great benefits in computers, benefits which remain unclaimed if farmers fail to purchase, learn, and use computers. This study seeks to explore to what extent preferred learning style influences the degree to which a farmer learns to use his or her computer and hence the degree to which he or she uses the computer.

Statement of the Problem. The typical farmer, after purchasing a computer, is left to a great extent, on his or her own to select and learn software needed for farm management. Each farm is idiosyncratic. Few farmers have identical needs. As a result, each farmer faces a mountain of learning to be climbed largely alone.

Individuals meet this challenge with varying success. Some take to the computer as if it were second nature. These, I believe are very few. Others labor long and hard, yet reap the benefits. Many take classes and then endeavor to apply the lessons to their own operation. Combatants of another stripe hoist the white flag after a struggle and either abandon the project altogether or use the equipment quite minimally. Finally, some farmers surrender without a fight, yielding control of the high-tech box to the games and term-papers of the younger generation.

If the above inferences are correct (and preliminary work would indicate that they are, cf. Iddings & Apps, 1990) computer use might be seen on a continuum determined largely by the person's success in learning software. Admittedly many other factors play a role in the extent to which a farmer uses computer equipment, but the role of learning cannot help but be significant in view of the nature of computers.

Given this scenario, farm computer users should prove ideal subjects for the study of a basic theoretical problem, ie. to what extent do the general (not context bound) attitudes and predispositions of the learner toward particular environments, modes of learning, and contents enhance or diminish persistence motivation in independent learning projects? A problem directly relating to practice can also be addressed: in what ways do those same learning style elements affect farm computer mastery and use? These two enmeshed questions are the focus of this study.

Conceptual Framework

Scholars from the time of the early Greek philosophers have been wrestling with the interplay of individual differences and learning. Various experimental and correlational studies have been conducted in exploratory manner throughout the first part of this century. A systematic formulation and approach to research was not developed, however, until the 1950's through the work of Cronbach. Calling his general framework "aptitude-treatment interaction" (ATI) he sought to elucidate the significance of individual differences in various treatments.

During a major conference in 1965, Cronbach (1967) set the agenda for further research in the area. At that time he defined an aptitude as "a complex of personal characteristics that accounts for an individual's end state after a particular educational treatment (pp. 22-23)." He saw these initial state complexes not only as mere correlates of learning but as actually propaedeutic, that is, needed as preparation for successful response to learning conditions.

Research thus far has focused primarily on what have been judged to be the top two aptitude complexes, cognitive ability, and achievement motivation (Snow, 1989). Very little has been done with the affective and conative dimensions of ATI. Recently, however, there has arisen interest in those areas. This study finds its niche within study of the interaction between affective aptitude or predispositions and a necessarily low-structure learning environment.

While fraught with limitations the Canfield learning style inventory seeks to differentiate persistent, non-contextual feelings concerning different learning environments, different modes of instruction, and different content areas. Through its use in conjunction with an instrument which proposes to determine the extent to which a farmer has learned to use a computer the study sought to determine whether affective aptitude complexes play a role in independent learning projects. It also attempted to make a distinction between the optimal learning style preferences of those who learned on their own and those who took classes. The research sought to determine in what ways learning style makes a difference in computer learning given two different types of treatment.

Methodology

Instrumentation. A survey instrument was constructed involving three elements. First a computer use instrument was developed to measure the dependent variable. It took the form of a simple additive index which yielded a final composite score. The farm computer user was asked to indicate which of the 19 listed activities he or she had performed and with what frequency. We reasoned that each specific application useful on a farm required additional learning and the greater the frequency the better the learning. Thus, the computer use score should also imply computer learning (hereafter, computer use/learning refers to this variable).

The second element in the survey was Canfield's Learning Style Inventory (LSI), Form O. This learning style inventory was used to measure the independent variable, affective aptitude. Form O, a modification of the standard Canfield form, accommodates nonformal adult learning situations. Sixteen affective learning style preferences are measured by the instrument. It does not measure student grade expectation as do the other forms of the LSI.

The final portion of the survey instrument consisted of background questions. It included inquiry into how farmers went about learning to use their computers.

The instrument was checked for face validity by numerous faculty, staff, graduate students, and farm short course participants at the University of Wisconsin - Madison. It was then pilot tested by twenty Wisconsin farm computer users in the Fall of 1989. Minor adjustments were made based on the results.

Sample. A simple random sample of farmers who have purchased some type of farm software was drawn from lists obtained from the three largest agricultural software vendors serving a national market. Based on a 1988 survey done by *Agricultural Computing* , the companies had similar market shares and together their products were used by 32% of the magazine's reader-ship. Each company sent approximately 1000 names of farmers, representing twelve mid-western states, who had purchased software earlier than January 1989.

Because of wide variability in farm operations and a large number of potentially confounding variables, a relatively large sample was required. Thus, 200 farmers were chosen from each list using a table of random numbers. As a result the survey was sent to 600. Of those, 349 were returned in useable form. Thirty-six were returned as not applicable either because the addressee did not farm or they no longer had access to a computer. Eleven others were returned because of bad addresses. There is reason to believe that the resulting return rate percentage of 63% is still too low. In random calling of those who did not return surveys, a full 35% indicated the survey was not applicable for the same reasons mentioned above. If we were to assume this percentage remained consistent for the entire group of those who did not return the instrument, the response rate would jump to 72% of those for whom the survey applied.

The average respondent was male, 43.5 years old, and has been using a computer for 5.6 years. He has a gross annual farm income of $200,000 and has some college. He farms full-time somewhat over 800 acres and owns an IBM compatible microcomputer. He raises corn, wheat, and soybeans, and has cattle or hogs. 165 farmers had taken a computer class while 174 had not (10 did not respond to that question). Respondents differed from non-respondents with respect to age. The average age of non-respondents, based on a random telephone sample of 20, was 37 ($p=0.02$). Respondents also tended to use their computers for word processing more than non-respondents ($p=0.000$).

Results

Based on the notion of aptitude by treatment interaction, the researcher felt that if learning style preference played a role in computer use, the means by which the farmer went about learning the computer would interact with those learning style preferences and in some way affect the extent to which he or she used the computer. Thus, the computer use scores of those who learned to use the computer without the benefit of a formal class would reflect the strength of certain learning style preferences. These preferences were hypothesized to include working with numbers, learning by direct experience, and an independent learning score consisting of a composite of the T scores of goal setting + independence - peer - instructor. Using this general linear model, a percentage of the variance in computer use/learning should be explained. Those who took classes to learn the computer, on the other hand, were expected to have lower preference for independent learning. Their computer use was thought to be perhaps less a function of learning style since other motivations inherent to classroom learning would be introduced.

The results proved interesting. While the mean independent learning preference score for those who learned to use the computer on their own was indeed higher than the mean score of those who learned in a class, the difference was not statistically significant at the arbitrary 0.05 level ($p=0.07$). The only learning style preference which was different between the two groups was a preference for learning by listening ($p=0.045$).

With regard to the elements which best predicted the computer use/learning of the farmers, the two groups differed markedly. In both groups men used the computer substantially more than women. But the learning style predictors were quite different. For those who did not take a class the independent learning composite score was indeed a strong contributor to the general linear model. Preference for numbers also played a significant role. In the analysis of variance associated with the multiple regression model the probability of their influence happening by chance was well below 0.01. After gender is included with these two learning style variables, the model explained 15.6% of the variance in the computer use scores of the non-class attenders. All other variables did not contribute significantly to the model.

Those who took classes on the other hand, were not influenced by either preference for independent learning or numbers. Rather, their computer use/learning was negatively impacted by preference for learning by direct experience. A model which contains only the elements direct experience and gender explains 12.7% of the variance.

One curiosity arose from the data. While education and income level did not appear to play a significant predictive role as to computer use (contrary to results from other research, cf. Yarbrough, 1987; Bowen, Miller & Escolme, 1989), the interaction of income and independent learning was significant in those who did not take classes (p=0.025). Perhaps this result points to the idea that only those who favor independent learning take advantage of greater availability of cash to purchase more software and avail themselves of diverse learning opportunities.

Discussion

Serious limitations hamper any effort in the social sciences, and this study was no exception. While the selection procedure for the sample attempted to control for major confounding variables such as new computer ownership and poor quality or inadequate software, many other variables could not be controlled for. We would thus expect a considerable amount of basically random error with which to contend. In addition, the leap from computer use to computer learning is great. While no other convenient way of measuring computer knowledge presented itself, other circumstances play a role. One farm computer user I talked with admitted he was a computer science major in college but his father only allowed him to do accounting on the farm computer. His computer use score was therefore a poor indicator of his computer learning.

The Canfield Learning Style Inventory has problems as well, as do most such instruments (cf. Sewall, 1988; Bonham, 1988). Though form O has been designed to help individuals go beyond strictly formal classroom settings, it is still difficult for the test-taker not to think of specific schooling situations. Preferences within independent learning contexts, which make up much of farm computer learning, are not taken into account. We must, therefore, assume in using this inventory that one can generalize from the individual's remembered affect in a few specific classroom or conference situations to a wide variety of learning situations many of which are outside the influence of a teacher.

Given the extent of the above mentioned limitations, it is noteworthy that anything came out statistically significant. Because of the complexity of life and learning, ATI research has been plagued with results bearing the label, "NSD," "No Significant Difference" (Cronbach & Snow, 1977). Even when something has turned up significant, the amount of variance explained has turned out to be small. With this track record, the results of this study are indeed singular. Learning style preferences seemingly played a role in the computer learning projects of this group of farmers. Those who persisted in learning the computer without the aid of a class did so because they liked learning on their own. They evidently did not need the encouragement of teachers or the competition of peers. Rather they favored setting their own goals and determining how they might best pursue them. These farmers also liked working with numbers.

Those farmers who excelled after taking a class in computers were distinguished by only one learning style feature. These individuals did not particularly favor learning by direct experience. While most computer classrooms are designed with a computer for every student, practice time may be limited. Understanding may be the prize of those who are able grasp what the teacher *says*. Furter study may be needed to uncover the full reason for the negative correlation between computer learning/use and preference for learning by direct experience.

While we probably cannot extrapolate from this sample to the body of all farm computer owners, certain conclusions suggest themselves which are relevant to those concerned with helping farmers learn computers. Individual differences in learning style do play a role in computer learning. Not every farmer will benefit from the same treatment. A variety of learning approaches should be made readily available to those who seek help. Extension agents, as well as others, must realize that not everyone should attend a workshop to learn about computers. Many will learn better in other circumstances. Helping farmers find learning resources with which to pursue their own learning independently may be just as valuable for some.

In addition, wider implications may be suggested. Adult learning projects and self-directed learning continue to be widely discussed in the literature of adult education. A fair portion of associated research has focused on the nature and personality of a "self-directed learner" (Caffarella & O'Donnell, 1987). Rather than looking for a particular personality which is consistent with self-directed learning, however, as some advocate (eg. Oddi, 1987), this study suggests that person x situation studies may be more helpful. Both farmers who studied on their own and those who took classes were arguably self-directed in terms of their choice of learning resources. Differences in personal characteristics, however, played a role in the extent of computer mastery. In further research we would do well to keep certain questions in mind. Once an individual has embarked on a learning project of some sort, what characteristics encourage persistence and maximal learning? How do these characteristics interact with the particular learning approach chose by the individual? And how can those who manage learning resources for adults best accommodate the variety within their clientele?

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Edward Lee Thorndike: A Case Study in the Political Use of Adult Education Research

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This paper examines Edward Lee Thorndike's Adult Learning within the context of his theory of learning and social philosophy. Given this context, it explores how the American Association for Adult Education's leadership selectively interpreted Thorndike's contribution to adult educators, while choosing to avoid contemporary controversies surrounding his conceptual framework and educational implications. The paper concludes with issues regarding our current understanding of adult education research, practice and distribution of educational resources.

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Edward Lee Thorndike: A Case Study in the Political Use of Adult Education Research

The sole criticism arrived from across the Atlantic. While American reviews of Edward Lee Thorndike's *Adult Learning* (1928) were uniformly positive, the British *Bookman* disagreed. Acknowledging that Thorndike was "the most distinguished exponent of the hard-boiled doctrine that the learning 'process' is measurable and 'scientific' like physics," the *Bookman*'s editorial staff suggested that "such an approach was inadequate to address the question, 'How do we learn?'"[1] In sharp contrast, adult educators in the United States hailed Thorndike's scientific proof that adults could learn.[2] While *Adult Learning* was only one of Thorndike's over five hundred publications, historians of American adult education have identified its appearance as, "one of the great moments in the history of the movement."[3] And yet, the *Bookman*'s editorial staff, by raising a fundamental criticism of *Adult Learning*'s conceptual framework, calls into question the nature of Thorndike's contribution. This paper examines *Adult Learning* within the context of Thorndike's theory of learning and social philosophy. Given this perspective, I will explore how the leadership of the agency sponsoring Thorndike's research, stressed the scientific evidence which he gave adult educators without questioning his conceptual framework or educational implications. While *Adult Learning* was indeed a significant event in American adult education history, its significance lay, not in proving that adults could learn, but in how the American Association for Adult Education used Thorndike to claim scientific legitimacy for an emerging discipline.

Frederick P. Keppel and Edward Lee Thorndike met to discuss the latter's research proposal on adult learning. Keppel, the newly appointed President of the Carnegie Corporation of New York, was holding a series of meetings and conferences where participants were discussing a study of adult education programs and the merits of establishing a national organization for adult educators. The Corporation's President believed that a lack of knowledge in educational measurement hindered adult educators and discussed this hinderance with one of the nation's leading educational psychologists, E. L. Thorndike.[4] Thorndike, who at the time was finishing up a Carnegie-sponsored study on human intelligence, drafted a proposal outlining a study of adult learning. Keppel, his advisory committee on adult education, and the Corporation's Board, approved Thorndike's proposal and voted $45,000 for the research.[5] Thorndike, with money in hand, returned to his lab at Teachers College and Keppel concluded his series of conferences by establishing the American Association for Adult Education (AAAE), under the Directorship of his former assistant Morse Cartwright. As Director, Cartwright asked Thorndike to present his preliminary findings before the Association's second annual conference and subsequently published summaries of the study in two issues of the *Journal of the American Association for Adult Education*.[6]

Thorndike's theory of learning and social philosophy were inextricably related and provided the conceptual framework for *Adult Learning*. His theory of connectionism defined learning as the joining together or forming of a bond between a response and a situation. He assumed that humans had evolved to the stage where they could break down complex contexts into their component parts and form learning connections, though individuals differed substantially in their capacity to make such connections. This capacity to join, or human "intelligence," sprang from hereditary factors and was susceptible to quantitative measurement.[7] Consistent with his theory of connectionism, Thorndike tested the intelligence of his adult subjects and compared their learning with children and youth having similar scores. He found that regardless of their intelligence level, adults learned as well as their younger counterparts. He concluded, "Individual differences amongst those of the same age will enormously outweigh differences between ages in intelligence."[8] That is, innate capacity, rather than age, was the determining factor in learning. Based on these findings, Thorndike maintained that teaching adults was no different than teaching children and that adult educators, like all other educators, were bound by the nature of their students. They had to take into consideration their students' individual capacity and interests as they sought to efficiently organize the learning environment.[9] He later illustrated with a personal example. Thorndike knew a local elevator operator, a man who, according to Thorndike, was as happy operating his elevator as other people were playing golf. All that he needed to do after work "was to eat his meals and go to bed and go to sleep. He had a happy life and a useful one, but if he had tried to do anything much more complicated he would have spoiled it."[10]

Thorndike's theory of learning was foundational to his social philosophy. By placing human intelligence and learning on a genetic basis, Thorndike could address race, deviance, social status, and other problems inherent to a disorderly industrial society.[11] Innate endowment, rather than social environment, explained the low average intelligence scores of racial groups within American society. Some of his colleagues used this rationale to testify in support of Nordic and Alpine racial superiority before a Congress debating the nation's immigration policies. That Congress passed and President Coolidge signed into law the restrictive Johnson-Reed National Origins Act of May, 1924.[12] Thorndike also linked low intelligence to deviant behavior. Though he eventually disparaged the eugenics movement, he remained supportive of its central call for selective breeding against "the production of feeble-minded, insane, moral perverts, grafters and others who do the world more harm than good."[13] Finally, Thorndike linked superior innate intelligence to high social status. He concluded that the political system should concentrate power in the hands of the most able and expert individuals, and that it should distribute limited educational resources to this intellectual and political elite.[14]

It was this last application of his social philosophy which Thorndike believed was crucial to adult education. He saw education within the context of a community's plan for productive labor, recreation and the "'higher life.'" Given this vision, he argued that a community was responsible for deciding educational quantity, content and participants. He suggested that a community relegate less hours during early age and distribute them from the age of 14 to 35. Public welfare, according to Thorndike, was as dependent on who went to school after fifteen as it was on how many were educated up to that age. He maintained, "The continued schooling of some individuals is so useful to the nation that it should be assumed."[15] As President of the AAAE, an honorary post Thorndike held during 1934-35, he clarified who he thought society should help to continue their education. In his Presidential address, he urged adult educators to select those who would participate in their programs according to ability and interest. In his estimation, anything that a dozen "extraordinary" individuals needed to learn would "probably do much more good to the world than, say, making thousands of illiterates literate."[16]

The positive response which the Association gave Thorndike at its second annual conference in 1927, eight years prior to this Presidential address, turned into hearty, albeit selective endorsement, by its Director Morse Cartwright. Cartwright interpreted Thorndike's significance for adult educators in three ways. First and foremost, Adult Learning scientifically proved that adults could learn, a proof that shook a complacent educational profession which, according to Cartwright, saw little value in educating adults.[17] Cartwright also interpreted Thorndike's study as a basis for introducing a scientific approach to designing adult education programs. Standing before a summer school class in 1929, Cartwright concluded that Thorndike had "reduced the guesswork of adult education leaders, highly competent and shrewd as it was, to the calm precision of scientific data." With this "guesswork" out of the way, the AAAE sponsored research and programs in adult reading, prison education and vocational guidance.[18] Finally, Cartwright interpreted Thorndike's contribution within the context of adult education's historical development. In his ten year retrospective, Cartwright cited Thorndike's study as, "without doubt the most potent factor in the spread of the adult education idea." Implied in this interpretation, was the premise that the movement would go forth as a product of experimentation, an interpretation echoed by historians of adult education.[19]

Cartwright's interpretations of Thorndike's significance were selective, in that he focused attention away from the controversies surrounding Thorndike's conceptual framework and educational implications. By saying that Adult Learning scientifically proved that adults could learn, Cartwright chose not to question Thorndike's use of intelligence tests as a means of segregating adult learners and defining their parameters of learning. Sociologists, anthropologists and social critics contemporary to Thorndike, criticized genetic explanations of human nature and, in particular, called into question the validity of intelligence tests. The most famous debate occurred within the pages of the New Republic, between Walter Lippmann and Robert Yerkes, six years prior to Macmillan's publication of Thorndike's study.[20] Despite widespread debate in American academic circles, Cartwright never pressed beyond claiming Thorndike's scientific proof, nor did he question an adult education which resulted from such a conceptual framework. What kind of adult education was it that viewed an elevator operator as someone outside of its scope, implying that such individuals be left alone in ignorant bliss?

The Association's Director also chose to sidestep Thorndike's potentially more embarrassing conclusion that teaching adults was no different than teaching children. Keppel and Cartwright both had been quite explicit in their belief that adult education was qualitatively different from childhood education. The Corporation's President criticized adult educators, and in particular university extension, for packaging courses in a manner that did not take into consideration the distinctive nature of adulthood.[21] Cartwright used this same rationale in his criticisms of Franklin Roosevelt's New Deal. Roosevelt's plan employed school teachers to teach the unemployed during the Depression. Cartwright, an early advisor to the New Deal, criticized such an approach on the premise that there existed a qualitative difference between educating adults and children. He went on to recommend that the New Deal train others, particularly those outside of the education profession, in the techniques and methods of adult education.[22] Thorndike consistently applied his learning theory with the realization that a primarily genetic explanation of human nature and learning should translate into the same educational practice, regardless of student age. In contrast, Cartwright overlooked the inconsistencies between a hereditarian explanation of human learning and his claims to a qualitatively different approach in teaching adults.

In the face of criticism during the Depression, Cartwright distanced the Association from Thorndike's views regarding how a community should distribute its educational resources. The morning after Thorndike's Presidential address and his call for educating the "extraordinary," an Association member paid Cartwright a visit, protesting the AAAE's promotion of distributing educational resources toward an elite few. According to Cartwright's later account, this unnamed member from Chicago, criticized the Association's policy of bettering the education of "people who were really interested and who really had the intellectual capacity" at the expense of "underprivileged" groups. Though Cartwright felt that the criticism was unjustified, he admitted to his Board that a similar widespread feeling might exist among the Association's membership.[23] The following year, Cartwright drafted a proposal outlining a series of studies that would examine adult education's "social significance." The guiding stipulation which Cartwright and his Board placed on the series was that it "should assume a broad democratic base, one where the forces of intelligence are spread just as widely as can be."[24] With this statement of policy, Cartwright distanced the Association from the man whose study "was the most potent factor in the spread of the adult education idea."

Cartwright was certainly not the only adult educator who proclaimed the significance of Adult Learning, but as Director of the AAAE, he interpreted Thorndike's significance in a manner which lent scientific legitimacy to the movement and raises questions regarding the historical precursors to our present practice. By proving that adults could learn, Thorndike gave Cartwright a scientific reason to distinguish the occupation of adult educator within the broader educational profession. He further buttressed a "scientific" adult education by supporting programs which implemented educational measurement as a bridge spanning an adult's ability to learn with the practice of teaching adults. Finally, as Cartwright interpreted Thorndike's historical significance to adult educators, he implicitly argued that the movement would go forth as further scientific discoveries occurred. His interpretation of Adult Learning, passed on as, "one of the great moments in the history of the movement," raises questions about precursors to our present research, program design and distribution of educational resources. Intellectuals from a variety of disciplines were questioning the assumptions underlying Thorndike's research, suggesting that his was only one of a number of competing frameworks that sought to understand adult learning. How has an uncritical acceptance of Thorndike's historical significance shaped adult education research? And, in light of the Bookman's initial criticism, how do we understand the American research experience within the context of the broader international movement? Thorndike, unlike the adult educators who quoted him, acknowledged that his conceptual framework provided no basis for distinguishing adult education from childhood education. This lack of acknowledgement, on the part of adult educators, calls into question the distinctive nature of the adult education enterprise, particularly when attempts are made to translate research into practice. Did Thorndike's Adult Learning act as a contributing precursor to the wide acceptance of an individualistic, behavioral objectives approach to adult education? If so, what were the structures and processes of transfer? Finally, Thorndike's contention that limited resources be distributed toward the education of an elite, calls into question Cartwright's later claim that the Association supported the democratic ideal of widespread educational opportunity. Did the uncritical acceptance of Thorndike's ideas, on the part of some, plant an anti-democratic bias in the movement? Or, was that bias already there, with Thorndike being one of a number of expressions that advocated an adult education that had little to do with the majority of the adult population?

NOTES

1. Review of *Adult Learning* by Edward L. Thorndike, *The Bookman* 68(September 1928):xxii.
2. Review of *Adult Learning* by Edward L. Thorndike, *The American Review of Reviews* 78(August 1928):23.; Charles E. Benson, *The Journal of Educational Sociology* 2(December 1928):250-51.; Franklin Bobbit, *The American Journal of Sociology* 34(March 1929):939; Jordan Cavan, "Have Adults Lost the Power to Learn? A Summary of the Findings in Thorndike's Study," *Religious Education* 24(October 1929):729-32.
3. Malcolm Knowles, *The Modern Practice of Adult Education* (Chicago: Follett Publishing Company, 1980), 55.
4. Frederick P. Keppel, "Education for Adults," *The Yale Review* 15(April 1926):428; Carnegie Corporation (hereafter CC), "Preliminary Draft, Minutes of Conference on Adult Education," Series II, no. 2, June 18, 1924, Carnegie Corporation of New York Files, New York (hereafter Corp. Files); Amy D. Rose, "Beyond Classroom Walls: The Carnegie Corporation and the Founding of the American Association for Adult Education," *Adult Education Quarterly* 39(Spring 1989):140-151.
5. CC, "Tentative Program," Series II, no. 10, November 28, 1924.; CC, "Small Group Discussion of Tentative Program," Series II, no. 11, December 24, 1924, Corp. Files.
6. *Journal of American Association for Adult Education* 1(June 15, 1927):3-4.; 2(March 15, 1928):3-4.
7. Geraldine Joncich, *The Sane Positivist: A Biography of Edward L. Thorndike* (Middletown, Conn.: Wesleyan University Press, 1968); Geraldine Joncich, "Science: Touchstone for a New Age in Education," in *Psychology and the Science of Education Selected Writings of Edward L. Thorndike*, ed. Geraldine Joncich (New York: Teachers College, Columbia University, 1962):10-12.
8. Edward L. Thorndike et al., *Adult Learning* (New York: The Macmillan Company, 1928):159
9. Ibid., 177-79.; E. L. Thorndike, "How We Learn," Journal of Adult Education *(hereafter* JAE*)* 6(January 1934):50-51.
10. E. L. Thorndike, "The Right Use of Leisure," *JAE* 2(January 1930):45-46.
11. See Barry M. Franklin, *Building the American Community: The School Curriculum and the Search for Social Control*, Studies in Curriculum History, no. 4 (Philadelphia: The Falmer Press, 1986); Hamilton Cravens, *The Triumph of Evolution: American Scientists and the Heredity-Environment Controversy 1900-1941* (University of Pennsylvania Press, 1978); Merle Curti, "Nature vs. Nurture" *Human Nature in American Thought: A History* (Madison: The University of Wisconsin Press, 1980):272-312.
12. Cravens, *The Triumph of Evolution*, 227-241.
13. E. L. Thorndike, *Human Nature and the Social Order* (New York: The Macmillan Company, 1940):449;
14. Franklin, *Building the American Community*, 53-56.; Cravens, *The Triumph of Evolution*, 251-264.
15. Thorndike et al., *Adult Learning*, 181-193, 194.
16. Edward Lee Thorndike, "Earned Opportunities," *JAE* 7(June 1935):260-262.
17. Morse Cartwright, *Ten Years of Adult Education: A Report on a Decade of Progress* (New York: The Macmillan Company, 1935):35.
18. Morse Cartwright, "Adult Education as a World Movement, Adult Education in the United States: A Factual Presentation," 1929, Special Collections, Milbank Memorial Library, Teachers College.
19. Cartwright, *Ten Years of Adult Education*, 33.; C. Hartley Grattan, *In Quest of Knowledge: A Historical Perspective on Adult Education* (New York: Association Press, 1955):14,241.; Malcolm Knowles, "Historical Development of the Adult Education Movement in the United States," *Handbook of Adult Education in the United States* (Chicago: Adult Education Association, 1960):25.
20. Curti, "Nature vs. Nurture", 293-297.; Cravens, *The Triumph of Evolution*, 84-85, 180-185.; N. J. Block and Gerald Dworkin, *The IQ Controversy: Critical Readings* (New York: Pantheon Books, 1976).
21. Frederick P. Keppel, "Adult Education, Today and Tomorrow," in *Education for Adults and Other Essays* (New York: Columbia University Press, 1926):36.
22. Morse Cartwright to Frederick Keppel, November 1, 1933, Corp. Files.; Morse Cartwright, "AAAE Annual Report of the Director, 1933-34," *JAE* (June 1934):348-352.
23. Frank E. Hill, "Clearinghouse: The Tenth Annual Meeting," *JAE* 7(June 1935):333-334.
24. AAAE Executive Board, Officers and Staff of the Association Resident in the New York Area Meeting of October 13, 1936:8, Corp. Files.

THE GROUP AND MATRIARCHAL CONSCIOUSNESS: CONTRIBUTIONS TOWARD AN UNDERSTANDING OF GENDER DIFFERENCES IN A SMALL ADULT LEARNING GROUP

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Abstract

The aim of this study was to explore the unconscious and symbolic constituents of gender-different, classroom behaviors. The study tested conjectures, derived both from Jungian theory and from the psychoanalytic group literature, which hypothesized that in the small, interactive learning group women and men would elicit differing responses from the group-as-a-whole at those times when the group culture was focused on issues of supportiveness, trust, relatedness, and group cohesiveness. From the Jungian perspective, these and similar group themes may be interpreted as indicating that the matriarchal archetype is the dominant, symbolic configuration within group consciousness. Jungian theory would suggest that in relation to this dominant matriarchal configuration, member behavior will vary in predictable ways by gender. But what if a member's behavior should violate the gender-expected pattern? The psychodynamic group literature has suggested that the group-as-a-system tends to extrude a member from the psychological, boundary structures of the group if that individual deviates markedly from unconsciously constructed group content. Based on both Jungian psychology and psychoanalytic group theory, this study conjectured that the group-as-a-whole would exclude a member when his or her behavior deviated from gender-expected responses to the matriarchal archetype. Findings are assumed to contribute toward a wider understanding of gender-linked experiences in the small, interactive learning group.

THE GROUP AND MATRIARCHAL CONSCIOUSNESS: CONTRIBUTIONS TOWARD AN UNDERSTANDING OF GENDER DIFFERENCES IN A SMALL, ADULT, LEARNING GROUP

(Mary Ellen Kondrat)

Problem Statement

With women's increasing enrollments in post-secondary institutions, educators with a commitment to gender equality have become less preoccupied with equal access and increasingly concerned about reports of gender-differential experiences in the classroom. There is a growing literature identifying the presence of systematic bias by gender within ordinary classroom transactions (Association of American Colleges, 1982). In the usual account, some form of cognitive-behavioral, reinforcement theory is assumed to provide the critical link between cultural or structural variables, on the one hand, and the behavior of individual men and women, on the other. This assumption is most often adopted uncritically, even though other studies, from a psychodynamic perspective, have placed the acquisition of basic psychological structures and modes of relating--including gender--as early as the second year of life. Such findings suggest that certain gender-coded patterns of perception, behavior, and affect are established pre-cognitively and unconsciously. Thus, unconscious dynamics in the learning group may be a more critical factor in the existence of gender-different classroom experiences than generally acknowledged. To date there has been no systematic investigation of classroom gender differences from a psychodynamic framework.

Theoretical Framework

The work of Jungian theorist Erich Neumann (1954, 1963, 1973) provides the major conceptual framework for conjectures advanced in this study. Psychoanalytic group-as-a-whole theory supplements the use of Neumann's material by providing a way of conceptualizing group response to individual member behavior.

Archetypal Base to Human Development

According to Neumann, human development is shaped by certain archetypal forms thought to constitute the deepest layers in the unconscious make-up of all human beings. Two primordial archetypes, the matriarchal and the patriarchal, are said to dominate the development of human consciousness. Both archetypes are assumed to be operative in the unconscious psychology of men and women.

Archetype in the Psychology of Gender

According to Neumann's developmental psychology (1973), during the earliest period of development, one of the most challenging tasks facing the child is that of differentiating an intact ego out of an original, merged Mother-Self entity. The repudiation of identifications with the concrete mother figure by the boy, and the continuity of identifications with her by the girl are events crucial to the development of gender-different psychologies in Western culture. In Neumann's view, however, an even more important development is the restructuring of ego's relationship to the matriarchal archetype in the individual child's own psychological make-up. Although a matriarchal principle is inherent in the unconscious of both men and women, through the course of early differentiation, individuals come to relate differently to this inner matriarchal structure, depending upon gender.

Women relate to the matriarchal principle, and to those qualities, attitudes, and affects which this principle symbolically represents, via identification; whereas men relate to the matriarchal element by disidentification.

The Matriarchal Archetype in Group Consciousness

Recently, a number of studies have demonstrated that a matriarchally dominated group consciousness is observable at various points in the life of a small group (Boyd, 1987; Dirkx, 1987; Kondrat, 1990). The group situation appears to invite the collective projection of the matriarchal archetype at those times when the group is defined by diffuse member-group boundaries and blurred member roles and identities. At such times, members may evidence a certain preoccupation regarding potential loss of identity in the group or abandonment by the group. On the other hand, members may also fixate on the notion that by losing themselves in the group, they will be safe or cared for. These perceptions of group involvement, with accompanying affects and behavior, appear similar to responses which are thought to characterize the initial, pre-oedipal situation. In short, members appear to act 'as if' the group confronted them in the form of a larger-than-life mother figure.

It is axiomatic in the Jungian literature that when outer events trigger the projection of an archetypal theme,such as the matriarchal archetype, the individual's issues with that archetype will be externalized in that situation. Thus, one would expect women and men to mobilize different strategies for relating to the matriarchal archetype projected within the group's dynamic. Specifically, one would expect women to identify with the matriarchal archetype and men to disidentify from it.

Group Boundary Maintenance:Inclusionary/Exclusionary Mechanisms

Psychoanalytic group literature (Hartman & Gibbard, 1974; Jaques, 1974; Kernberg, 1975) has documented that during the initially undifferentiated phase of group development (when the matriarchal dynamic is most likely to be in evidence), member behaviors which threaten unconsciously shared, group content will be psychologically extruded from the inchoate group boundaries. Similarly, behavior which is congruent with the unconscious content will be defined as included within the group boundary. It is posited here that should a member violate unconscious gender expectations related to the matriarchal formation, group anxieties would be aggravated, and the group would attempt to exclude the potentially disruptive or conflictual behavior.

Initial Assumptions

The conjectures of this study are based on an assumption of gender differences in manner of relating to the matriarchal archetype in groups.

Conjectures

The following conjectures follow from the notions posited above.

Condition: In a small, mixed-gender, self-analytic group, comprised of returning adult students, during those phases when the matriarchal principle is dominant:

Conjecture 1: If a male group member attempts to promote disidentification from the matriarchal configuration, the group, in its inclusionary processes, will allow the behavior.

Conjecture 2: If a female group member attempts to promote disidentifications from the matriarchal configuration, the group, in its exclusionary processes, will disallow the behavior.

Conjecture: 3: If a female group member promotes identifications with the matriarchal principle, the group will allow the promoting.

Conjecture 4: If a male group member attempts to promote matriarchal identifications, the group will disallow the behavior.

Methodology

Intensive Case Study Design

The study utilizes a single case study design to test its conjectures. This design allows the researcher to observe group and member behavior over the extended life of a group and to derive inferences about other groups presumed similar in structure and format (Stephens, 1982).

Setting/Subjects

Subjects for the study were participants in a graduate seminar in group dynamics. The first ten sessions of the course were structured as an experiential exercise in group development, and video-recorded. Sessions were two-and-a-half hours each. As listed in the syllabus, the purpose of the experiential portion of the course was for participants to "learn about group dynamics by examining their own interactions as a group". The specific class selected for the study was chosen because its membership consisted of an equal number of men and women. All participants were returning adult students, with an age range between 30 and 55.

Procedures for Data Collection

The four variables of interest were specified as follows:

1. **Gender.** There were six men and six women in the group.

2. **Type of dominant group consciousness.** The 1440 minutes of taped, group interaction were coded for the dominance of matriarchal, patriarchal, or other archetypal theme in the consciousness of the group-as-a-whole. A coding manual, with sets of category specifiers and procedures, was revised from existing sources (Dirkx, 1987). Three judges were trained in the use of the procedures and manual, and acceptable pre-observation, inter-coder reliabilities were established. Operating independently, judges coded the dominant archetypal theme for each fifteen minute segment of group interaction. Throughout the study, fifteen minute segments were pre-identified by opening and closing statements to insure equivalence of observation unit among the three coders. Inter-judge reliability was measured for each session, and across all sessions.

3. **Type of individual member mode of relating to the matriarchal configuration in group consciousness.** Each of the ten group sessions was observed for individual member efforts to promote either identification with or disidentification from the projected matriarchal form in the consciousness of the group. A coding manual with category specifiers was developed from

Jungian conceptual sources, and face validity was established. Denotative references for identificatory and disidentificatory phenomena were masked by use of the neutral terms Type-A and Type-B promoting behavior, respectively. The categories Type-A and Type-B promoting behavior are mutually exclusive but not exhaustive of all possible member promoting efforts. Hence, a third, 'empty' category was included among the variable categories.

Special procedures were employed to train three judges in the use of the coding manual and coding form. Acceptable pre-observation, inter-coder reliabilities were established prior the study. The unit of observation was the 'utterance', a speech bounded on both sides by the words of another speaker (Boyd, 1961). Three judges, working independently, coded each utterance for type of promoting behavior. Inter-judge reliability measurements were obtained for two early group sessions and for a later group session, and data were analyzed for presence of any systematic observer bias.

4. **Type of group response to individual member promoting.** The unit of observation for the dependent variable was conceptualized in terms of alterations in the boundary patterning of the group-as-a-whole in relation to each, earlier coded instance of Type-A, Type-B, or Other promoting behavior. Three judges were trained in the use of coding procedures developed for this purpose, and inter-judge agreement measures were obtained prior to and during the observation period. Data were checked for presence of routine coder bias.

Data Analysis

Samples of group member behavior drawn on a population of all member behaviors are generally regarded as violating the assumption of statistical independence. However, when each person's behavior is taken as a sample of all possible behaviors of that individual in that group extended in time, the issue of independence recedes as a problem. Since the dependent, group response variable was nominally scaled and contained two mutually exclusive categories, thus conforming to a success/failure model, the binomial distribution was selected as a satisfactory way of testing the hypotheses. This statistic was employed to test the probability of obtaining a particular outcome, given a null hypotheses that either of two outcomes is equally likely to occur. Data were also analyzed descriptively in terms of frequencies of events within coded categories.

Findings

Initial Assumptions

The initial assumption, that gender specific differences would be found in manner of relating to the matriarchal configuration, was supported from the data. As expected, women were more likely to promote behaviors indicating matriarchal identifications than matriarchal disidentifications; and they were considerably less likely to promote disidentification than were their male counterparts. Also as expected, males were somewhat less likely than female group members to perform behaviors indicating matriarchal identification. However, contrary to expectation, males were about equally likely to promote identification as they were to promote disidentification from the matriarchal element in group awareness.

Conjectures

No falsifying evidence was found to refute the first conjecture which posited that the group would allow male members to promote disidentification from the matriarchal archetype in the group. Similarly, there were no findings to refute Conjecture Three, which predicted that the group would allow female members to promote matriarchal identification. Conjecture Two predicated that women who attempted to promote matriarchal disidentification would be disallowed from doing so by the group. Only one woman performed a sufficient number of this type of behavior to test the hypothesis. In her case, findings were in the predicted direction, but were not significant. Hypothesis Four, that the group would disallow males who attempted to promote identification with the matriarchal element in the group, was challenged by the data.

Discussion

Within adult education generally, there is a time-honored tradition of attention to the small, instructional group (Brookfield,1976; Houle,1972), and to qualities which constitute an "educative environment" (Knowles,1970). Knowles has described the "educative environment" as one in which a climate of safety, trust, and concern for the person prevail. Some conceptual overlap may be demonstrated between those group characteristics which, according to Knowles, define the educative environment, on the one hand, and behaviors promoted from the perspective of matriarchal consciousness, on the other.

Findings reported above suggest that women and men take differing levels of initiative in regard to concerns associated with the "educative environment" and that the group as a system may respond differentially to men and women in regard to this initiative. Females outperformed males in the exclusiveness with which their behavior evidenced identification with group matriarchal themes, over behaviors associated with disidentification from the matriarchal archetype. Males were far more likely than females to display behaviors indicating disidentification from the matriarchal configuration. Furthermore, there was indication that when women behaved in a manner incompatible with matriarchal identification, the group-as-a-system would move to exclude that member's behavior. These findings appear all the more cogent given that the constructs "identification/disidentification" were operationalized not simply in terms of personal presentations of self, but instead, in terms of distinct and identifiable efforts to promote specific forms of behavior, perception, or affect in the group.

Such findings suggest the possibility that important, gender-linked responses may be structured at an unconscious, extra-rational level of individual and group behavior. The sensitive educator may wish to be alert to ways that class participants and the learning group-as-a-system collaborate in an unconscious manner to constrain member contributions according to gender. The practitioner who observes such patterns operative in the learning group may find it useful to encourage members to reflect upon implicit group behavior, with the end in view of bringing these patterns to a more conscious level of group and individual functioning. At the level of more conscious awareness, the opportunity exists for these patterns, and the projections that underlie them, to be acknowledged, reconsidered, and redirected as necessary for a fuller participation of all group members, regardless of gender.

(References furnished upon request.)

from the matriarchal archetype in the group. Similarly, there were no findings to refute Conjecture Three, which predicted that the group would allow female members to promote matriarchal identification. Conjecture Two predicated that women who attempted to promote matriarchal disidentification would be disallowed from doing so by the group. Only one woman performed a sufficient number of this type of behavior to test the hypothesis. In her case, findings were in the predicted direction, but were not significant. Hypothesis Four, that the group would disallow males who attempted to promote identification with the matriarchal element in the group, was challenged by the data.

Discussion

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(References furnished upon request.)

Adult Self-Esteem Development as a Hidden Curriculum Effect of Vocational Microcomputer Training

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Abstract

This was an exploratory study to examine whether adult self-esteem development was a hidden curriculum effect of a 480-hour vocational microcomputer training in a Michigan adult education-business partnership setting. One hundred twenty adults from a total population of 145 program completers from three locations participated in the study voluntarily, and 25 completers did not take posttests because they got jobs before completion.

The one-group pretest-posttest design was employed in a natural setting to measure self-esteem development. A standardized self-esteem test (Long, 1987, reliability coefficient = .95) was used in the study. Each hypothesis was tested at a significance level of $p<.05$.

A significant positive relationship between a vocational microcomputer training and adult participants' self-esteem development was found. There was a significant difference in self-esteem development between program completers who were unemployed at the start of the program and those who were employed. Each of four contextual variables (SKILL ATTAINMENT, ANDRAGOGICAL INSTRUCTIONAL PROCESS, PLACEMENT SERVICE, BUSINESS-LIKE CLASSROOM SETTING) was found to have a significant positive relationship with adult self-esteem development. The instructional process variable was found to have the most significant relationship with adult participants' self-esteem development.

Adult Self-Esteem Development as a Hidden Curriculum Effect of Vocational Microcomputer Training

Introduction

In the field of human resource development, a means for developing positive self-esteem has been sought by business, industry, government and education for both employed (Pierson 1989; Rinke, 1988) and unemployed adults (Wendell, 1983), to help them maximize their potential.

Previous researchers have shown that positive self-esteem is one of the most important elements in securing and maintaining employment and in developing a career (Brockner, 1988). In adult vocational education, developing self-esteem has been viewed as the most important element in helping adults find employment (Price, 1987). Some adult educators "consider technology to be in opposition to human values .... do not view technology, such as the microcomputer, as facilitating the development of human qualities and characteristics but rather as retarding their development" (Meierhenry, 1982, p.11). Dwyer (1987) suggested to use Knowles'(1980) andragogy in computer training. However, no empirical studies have been done to determine whether vocational microcomputer training positively affects adult participants' self-esteem development.

The purpose of this study was to explore the relationship between a vocational microcomputer training for adults in Michigan, operating in cooperation with business, and participants' self-esteem development as a hidden curriculum effect.

Characteristics of the Program Components

Participants were those adults considered eligible for state funded adult education programs. Included were adults without a high school diploma and high school graduates under 20 years of age.

Program Content (Skill Attainment)

All instructional material was set up for self-paced progress by each student. Each student was able to control his/her rate of learning. The course modules were introduction to microcomputers and disk operating system, keyboard skills, word-processing skills (Word Perfect, version 5.0), spreadsheet concepts (Lotus 123), and computerized accounting. They received 480-hour training from March 1989 to August 1989.

Andragogical Instructional Process

All of the instructors had Michigan teacher certification. Each instructor underwent five weeks (200 hours) of intensive computer training designed specifically for this microcomputer application training program. In addition, each instructor received monthly in-service continuing education as the curriculum was updated and revised. Their instructional process, as observed and corroborated by students, was comparable to the andragogical model described by Dwyer (1987). The instructor's role in the classroom was regarded as that of a facilitator, as evidenced in the interview results.

Placement Services

The topics addressed through employability skills training were: Resume-writing skills; How to write a cover letter; How to uncover the hidden job market and use networking skills; Image projection by using fashion consultants, videos and lecture; Interviewing techniques (from filling out the application to sending the "thank you" note); and Overcoming rejection. The job-placement segment of the program began 30 days before the end of the training.

Business-like Classroom Setting

The classrooms were set up like offices in any business. Each classroom had 30 sets of Zenith Z-286-Lp AT computers with 20 MB hard disk drives and Analog color monitors. There were 30 student work stations, complete with work tables, and secretarial-style swivel chairs. There were 15 Panasonic dot-matrix printers with graphics, so that two people shared one printer. All three classrooms were carpeted and air-conditioned.

Research Hypotheses

HYPOTHESIS 1: There is significant positive self-esteem development for adult participants who complete a job-oriented, self-paced microcomputer application training program in an adult education/business partnership setting.

HYPOTHESIS 2: There is a significant difference in adult participants' self-esteem development on the basis of gender, race, age, educational background, program location, class shift, microcomputer experience, job status, marital status, purpose for attending, and adult education experience.

HYPOTHESIS 3. There is a significant relationship between adult participants' self-esteem development and their perceptions of one or more of four components, namely, the instructional process, skill attainment (the content), the placement services, and the classroom setting.

Methodology

One hundred twenty adult students (83% of the population) from a total population of 145 program completers from three locations participated in the study voluntarily. Twenty five completers (17% of the population) did not take posttests because they got jobs before completion.

The one-group pretest-posttest design was employed in a natural setting to measure the change in self-esteem development. The researcher used the one-group pretest-posttest design because the school system in which this study was conducted did not permit differential services for its adult students. The absence of a control group was "not a serious threat to the internal validity of the experiment" in a natural setting, and this design was "especially appropriate when the researcher was attempting to [measure a change in] behavior pattern or internal process that was very stable"(Borg & Gall, 1983, p.659). In this study, self-esteem was referred to as global self-esteem which is considered as quite stable in most individuals by adulthood and is not likely to change unless some significant effort is made. A standardized self-esteem test (Long, 1987, reliability coefficient, Alpha=.95) was used in the study.

To gather quantitative data, the following four instruments were used: (a) pre-questionnaire for gathering demographic information, (b) self-esteem pretest (Alpha=.51), (c) post-questionnaire for gathering adult participants' reaction to the four components of the program (Alpha: PROCESS=.81, SKILL=.70, SERVICE=.80, CLASSROOM SETTING=.71) and (d) self-esteem posttest (Alpha=.61).

Findings

Research hypothesis 1 was supported by a paired t-test (see Table 1). The findings indicated the educational significance of the hidden curriculum effect of a vocational microcomputer training in developing adult participants' self-esteem. The results supported the fact that microcomputer training promoted a humanizing effect for adult participants. This was considered a positive aspect of the hidden curriculum effect of the microcomputer training.

TABLE 1

Paired t-test Between Self-Esteem Pre- and Posttest Score

VARIABLE	N	MEAN	SD	T VALUE	DF	2-TAIL P
POSTTEST	120	81.4583	11.906	7.37	119	0.000***
PRETEST	120	73.5417	13.179			

***p <.001

In testing Research Hypothesis 2 by using ANCOVA, only Null Hypothesis 2H was rejected (p-.009) (see Table 2). A significant difference in adult participants' self-esteem development was found in relation to their job status. However, no statistical significant differences were found with respect to participants' gender, race, age, educational background, program location, class shift, microcomputer experience, marital status, purpose for attending, and adult education experience.

TABLE 2

Summary of ANCOVA Results :Hypothesis 2

Sub-hypotheses	SS	DF	MS	F	Sig of F
2A. GENDER	44.81	1	44.81	.46	.500
2B. RACE	35.96	2	17.98	.18	.834
2C. AGE	341.45	3	113.82	1.17	.323
2D. EDUCATION	95.73	2	47.87	.49	.616
2E. LOCATION	122.62	2	61.31	.62	.537
2F. SHIFT	552.25	2	276.13	2.92	.058
2G. COMPUTER	16.95	1	16.95	.17	.679
2H. JOB	902.99	2	451.50	4.94	.009 **
2I. MARITAL	472.40	2	236.20	2.48	.088
2J. PURPOSE	477.03	2	238.52	2.51	.086
2K. ADULT ED	96.19	1	96.19	.99	.323

**p < .05

This finding indicated that the job oriented, self-paced microcomputer application training program in an adult education/business partnership setting was very effective in developing self-esteem for the adult participants who had no job at the time of the application (see Table 3).

TABLE 3

Self-Esteem Pre-, Post- & Adjusted Posttest Scores by Participants' Job Status

	N	Pretest		Posttest		Adjusted Posttest
		M	SD	M	SD	M
Full-time	34	73.24	12.84	78.24	14.45	78.35
Part-time	25	73.40	10.68	79.00	10.90	79.03
No job	61	73.77	14.42	84.26	10.18	84.10**

**p<.05 F-4.94

In testing Research Hypothesis 3 by using multiple regression, the self-esteem pretest score and job status were used as covariates since job status was found to have a significant effect on the self-esteem development. The gain score between the self-esteem pretest and self-esteem posttest should not be used as the dependent variable as βw of the self-esteem posttest on pretest was not equal to 1.0 (Kirk, 1982). After adding the placement services and the classroom-setting variable, it was found that there were very small R square increments, which were not significant (see Table 4). The reason for this phenomenon was 'collinearity (Borg and Gall 1983, p.599)' between each of the independent variables. The instructional process variable had a high correlation with skill attainment (content) (r=.44), placement service (r=.49), and classroom setting (r=.62).

TABLE 4
Multiple Regression Analyses for Adult Participants' Self-Esteem Development: The Enter Method

Variable	Beta	Multiple R	R square	R square change	F change	T
1. PRE	.5639	.56392	.31800			7.418***
2. JOB (Dummy)		.60953	.37153	.05353	4.94**	
JOB2	.0233					.271
JOB3	.2427					2.813**
3.PROCESS	.3279	.68957	.47550	.10398	22.80***	4.775***
4.SKILL	.1774	.70687	.49966	.02416	5.50**	2.346**
5.SERVICE	-.006	.70688	.49968	.00002	.004	-.064
6.CLASS	-.016	.70698	.49982	.00014	.032	-.179

** $p < .05$ *** $p < .001$
NOTE: JOB was dummy coded.
JOB2 = Part time job, JOB3 = No job, Base(JOB1) = Full time job

Because of this collinearity, other variables (skill-attainment, placement services, and classroom setting) did not have a chance to improve upon the explanation made by the instructional process variable, which was entered into the multiple regression analysis first after controlling for the two covariates. Therefore, three separate multiple regression analyses were performed by entering the skill attainment (content), placement services, and classroom setting variables, respectively, with the two covariates. Research Hypothesis 3 was supported by the results of statistical analysis with quantitative data ((a) instructional process with p=.0000, multiple R=.69, R square=.47; (b) skill attainment with p=.0001, multiple R=.67, R square=.45; (c) placement services with p=.0016, multiple R=.65, R square=.42; (d) classroom setting with p=.0039, multiple R=.64, R square=.41)). This finding indicated that the four components of the program positively affected adult participants' self-esteem development, which was a positive hidden curriculum effect of the adult vocational computer training. It should be noted that the andragogical instructional process proved to be the most critical factor in developing participants' positive self-esteem.

Conclusions

Initial concerns over the dehumanizing effect on individuals engaged in technology training, such as a microcomputer application program, were not substantiated; rather, the opposite proved to be the case. Program completers experienced a significant increase in self-esteem. Significant difference in self-esteem development between program completers who were unemployed at the start of the program and those who were employed was found. No significant differences in self-esteem development were found with regard to the other demographic factors included in the study. Significant relationship between adult participants' self-esteem development and their perceptions of the andragogical instructional process, skill attainment, the placement services, and the businesss-like classroom setting was found. The andragogical instructional process proved to be the most critical factor in developing participants' positive self-esteem.

Recommendations

Recommendations for Practical Applications

Adult educators, policy makers, and school officials are encouraged to use this information in planning and evaluating vocational microcomputer training for adults and in selecting the instructional process, the content, the placement services, and the classroom setting. Adult educators and human resource development specialists are encouraged to use adult learning theory in training and retraining their adult workforces, to enhance their self-esteem development and to achieve high organizational productivity, as well. Curriculum developers are encouraged to use the information from this study in devising future courses, especially with regard to developing learners' self-esteem.

Recommendations for Future Research

A similar study should be conducted in adult vocational-technical training program other than microcomputer training to further examine participants' self-esteem development as a hidden curriculum effect. A similar study should be conducted in another country or countries to examine the results of this research can be applied in a different culture.

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The Use of Audio Interaction in a Telecourse Offered by Satellite: Foundations of Adult Basic Education

Carla Lane, Ed.D. and John Henschke, Ed.D.

Introduction

A telecourse, "Foundations of Adult Basic Education" was offered via satellite across the United States by the Video Instructional Program (VIP) at the University of Missouri - St. Louis. It aired for two hours on each of eight consecutive Saturday mornings from Jan. 13 - March 3. The 15 hours of video tape were up-linked (C-band) by the Educational Satellite Network (ESN), the Star Schools unit of the Missouri School Boards Association. To provide interaction with the instructor, four hour-long audio conferences were used. The course was geared toward adult basic education teachers, as well as corporate and business trainers. It carried three hours of undergraduate or graduate credit. The course was approved for Missouri State ABE/GED Teacher Certification. Missouri students used federal 353 funding to pay most of their tuition. Most students completed the course on May 15, 1990

Funding was the remainder of a grant to downlink teleconferences. Time on Saturday mornings was used because at $140 an hour (for 15 hours) it was the lowest cost time period. Satellite was not used for the interaction, although it was contemplated and ruled out because of the additional cost. What appeared to be a disadvantage actually worked out well as most dishes are not in use on Saturday mornings and students had few conflicting activities. Normal tuition fees were charged; no broadcast or out-of-state fees were charged. Students could pay tuition and book fees by MasterCard or Visa. Books were shipped to them directly by the bookstore. Over half the students registered via telephone during the last two registration days. As students registered for the class, they were assigned a permanent group, audio conference call time, and conference bridge telephone number and time to place calls to the audio conference switchboard in Columbia, MO. Students incurred the long distance charges which averaged about $40.The first audio conference was scheduled after students watched programs on the first day. Interaction with the instructor was provided by four hour-long audio teleconferences through the University's audio switchboard in Columbia, MO. (Jan.13, 27, Feb.10, and 24). The operator taped the audio teleconference and students could order the tape by telephone for $6.00. The fee covered only the cost of the tape, duplicating and shipping (48 hours after the order was received). Tapes were not available for rental. Conference times were scheduled back to back (eastern time) for Group A: 12:15 - 1:15 p.m.; Group B : 1:30 - 2:30 p.m.; and Group C :2:45 - 3:45 p.m. The switchboard accommodateed 20 participants at once.

The telecourse focused on how to teach basic reading, word recognition, comprehension, writing and intermediate math skills. It addressed problems that are characteristic of adult learners, including their needs, interests, and learning styles. The video was produced by Maryland Public TV and focused on teaching practices in adult basic education. Students learned how to select and use classroom materials, learning contracts, and other methods to individualize instruction. Teaching in literacy programs is not normally taught at the higher education level. There were pockets of six and eight literacy teachers who work in ABE/GED programs throughout Missouri who took the course together as well as smaller groups in other states.

Three texts were required for the course, including a 200-page study guide written by the authors. Henschke, Associate Professor, Educational Studies Department, School of Education, UM-St. Louis, was the national instructor. Students wrote and conducted their assignments through self-directed learning contracts, a method which had been used successfully by Lane during the two years she taught the telecourse locally. Henschke routinely uses learning contracts in all classes. Students used the contracts to create projects that they needed for their literacy programs which added the benefit of hands-on application There were 39 students. VIP assisted students in locating receive sites - sometimes suggesting the local satellite dish dealer or restaurant when educational facilities were not available. All but one facility donated the time. Most students provided videotape to the facility to tape the feed and picked up the tape during business hours, viewing the tape when it was convenient for them. When several students recorded HBO by mistake, other students mailed their tapes to them.

Research Question

Does group audio teleconferencing provide a useful method of interaction with the instructor for a pre-produced telecourse?

Most information delivered by satellite is live and interaction is conducted by the student calling the instructor with one question; conversations, when allowed, are very short. Satellite time is expected to increase to $1,000 an hour within a year. As a result, it will be necessary to find other ways to provide satisfactory interaction with the instructor. An audio teleconference may be one solution as it can be conducted when rates are low. If students must miss a conference, they can listen to a recording.

Review of Literature

The heavy emphasis of past communication scholars on investigating the effects of the newest medium has come at a cost in terms of what was not studied. The telephone, has been almost totally ignored by communications scholars (Williams, et al., 1988, p. 24). Past study of the telephone was shortchanged because the telephone was widely diffused among U.S. households before communication research escalated around 1950. The study of the telephone's diffusion and impact was made more difficult after the point at which almost all U.S. households had phones.

Bales has defined interaction as the behavior of one person influencing the behavior of another in a face-to-face situation. Interaction analysis in its broadest sense is a method of describing and interpreting human interaction as it occurs in a specific group setting (Bales, 1950 in Emmert, 1970, p. 373). Interactivity is a widely used term, but it is an underdefined concept. As a way of thinking about communication, it has high face validity, but only narrowly based explication, little consensus on meaning, and only recently emerging empirical verification of actual role (Hawkins, 1988, p. 110). The most helpful definition for interactivity would be one predicated on the issue of responsiveness. The distinction called for is between interactive, quasi-interactive (reactive), and non-interactive communication sequences. Quasi- and fully-nteractive sequences differ clearly from non-interactive communication in requiring that sender and receiver roles be interchangeable with each subsequent message. The complete absence of interaction is marked by incoherent conversation (Hawkins, 1988, p. 110)

The users of interaction analysis techniques have identified three dimensions: the affective, cognitive, and multidimensional. The affective systems generally examine such teacher behaviors as positive/negative reaction to students, praise, criticism, encouragement, acceptance, and support. The cognitive systems focus on the level of abstraction of a statement, logical processes, and the type of logical or linguistic function a particular behavior seems to serve in the classroom. Multidimensional systems attempt to identify factors from both dimensions, affective and cognitive (Emmert, 1970, p. 374.)

Data collection may be handled by taping the interaction, transcribing it, and coding from the typed transaction. (Emmert, 1970, p. 374.) A coding or sampling unit may represent a unit of time, a thought or verbal unit, a content area, or a sequence of two or more behaviors (Emmert, 1970, p. 374.)

Affective systems are probably the earliest and most widely used types of interaction analysis systems as developed in 1945 by H.H. Anderson and H. Brewer. They used a continuum from integrative to dominative to analyze or classify the behavior of both teachers and pupils. (Emmert, 1970, p. 374.) Using this framework, the Withall (1949) Climate Index was developed and has since been used in various research studies. Withall's system classifies teacher verbal behavior into seven categories: 1) Supportive statements intended to reassure and commend the pupil; 2) Accepting and clarifying statements intended to convey to the pupil the feeling that he was understood and to help him elucidate his ideas and feelings; 3)Problem structuring statements or questions objectively proffering information or raising questions about the problem in an attempt to help the learner solve his problems; 4) Neutral statements - polite formalities, administrative comments, verbatim repetition of something that has already been said - with no inferable intent; 5) Directive or authoritative statements intended to make a pupil follow a recommended course of action; 6) Reproving or deprecative remarks intended to deter the pupil from continued indulgence in present unacceptable behavior; and 7) Self-supporting remarks intended to sustain or justify the teacher's position or course of action (Emmert, 1970, p. 376).

B. O. Smith (1962) pioneered in the area of cognitive dimension with his attempts to develop a method for the logical analysis of the strategies teachers use in the classroom. Another of the early methods used to analyze teaching behavior was developed by Gallagher and Aschner (1963) using Guildford's (1956) framework for looking at the human intellect. This system uses four basic cognitive categories - cognitive memory, convergent thinking, divergent thinking, and evaluation - to analyze both the types of questions the teacher asks and the students' replies (Emmert, 1970, p. 376.) The relationship between the types of teacher questions and the types of pupil responses becomes a legitimate research question (Emmert, 1970, p. 377)

With the exception of Withall's system and Joyce and Harootunian's system, all the affective systems use time as a basic sampling unit (Joyce and Harootunian use a shift in content and Withall uses either words or phrases as the basic unit). In addition to the time sampling unit, the Flanders Interaction Analysis and related systems use shifts from one category to another. The basic sampling unit in the cognitive system is always a content or cognitive unit. In the system of Bellack et al, the number of written lines in a one-category sequence is the unit. In the Gallagher-Aschner system as well, the category change indicates the length of the unit In itself, then unit length is the length of time that teacher or student behavior can be classified into a single category without the intervention of a second category. Smith uses a content change to indicate the length of the basic unit. The multidimensional systems of Honigman and Amidon both reflect the same sampling procedure used in the Flanders Interaction Analysis system (Emmert, 1970, p. 378.) For this study, the unit used was one line of type from the transcript.

The adult learner has the potential and desire to increase self-directiveness in cooperation with other learners and trainers. This means that in the learning situation the adult: 1) accepts and wants responsibility; 2) orients toward the future; 3) values initiative; 4) opens up to opportunities when they are presented; 5) solves problems; and 6) is creative. Other adult learning concepts include that the instructor; 1) set a climate for learning; 2) establish a structure for mutual planning; 3) diagnose learning needs; 4) formulate directions for learning; 5) design a pattern of learning experiences; 6) manage the execution of the learning experiences; and 7) evaluate results and re-diagnose learning needs (Knowles, 1970). These were added as coding factors for the study.

Basic Interaction Analysis Categories

Two guidelines for setting up categories are used by the observer recording interaction. First, enough categories should be available to the observer to describe any occurrence. Second, the categories should be mutually exclusive so that the observer cannot describe an occurrence with more than one category. All verbal behavior is classified into one of three basic divisions: Teacher talk; student talk; and silence, confusion, or miscellaneous occurrences. Teacher talk is further classified as indirect and direct. (Emmert, 1970, p. 381.) Subcategories were added (E. J. Amidon et al.,1968, in Emmert, 1970, p. 398.) which indicates that categories may be added to the existing system. Occurrences are determined by calculating the percentage of time used for all categories. (Emmert, 1970)

Validity: The construct validity of Interaction Analysis is based on a conception of group climate or classroom social-emotional climate. This construct is characterized by the feelings and attitudes that the members of the group have toward one another, the subject they are studying, their teacher, and the work conducted. Methods used to identify outside criteria for measuring the climate have included supervisory ratings, behavior and reactions of the learners, and in some cases objective observer ratings of climate. The early studies of Withall and Flanders indicate that, in general, where learners have more positive attitudes towards classes, teachers tend to be more indirect than teachers of classes in which learners have more negative attitudes (Emmert, 1970). More recent notions of the validity of Interaction Analysis have had to do with the relationship between teacher influence patterns and achievement of students. If interaction analysis shows that certain teacher behavior patterns do or do not encourage achievement, then it can be used to predict achievement. Interaction Analysis' validity as a prediction tool is much more significant than its validity as a tool simply to describe climate, pupil attitudes toward the class, or pupil perceptions of the teacher.

The results of teacher education research using Interaction Analysis have added a further dimension to the question of validity Results of a number of studies (Hawkins, 1988) clearly indicate that teachers who learn Interaction Analysis are more likely to be accepting, supportive, and less critical than teachers who are not taught Interaction Analysis. It is a tool that can be used to identify teaching patterns of teachers and to discriminate between groups of teachers who have received different kinds of training.

Reliability: Traditionally, reliability in Interaction Analysis has been thought of primarily as inter-observer agreement for the same classroom observation, or consistency within the same observer across two observations. The problem with the second index of reliability is that it is difficult to assume that a teacher who is observed by the same observer over periods of time will produce the same behavior . The non-obtrusive method was used so that the tapes were recorded and later transcribed. Students knew that the tape was being made but no announcement was made.

Methodology: Tapes were made of each audio teleconference. Students were assigned to one of three sections to test the factor of group size; sections contained, 19, 14, and 6 students. The tapes were transcribed, coded, and analyzed for the structure provided by the instructor, types of questions asked and the instructor's responses, discussion, group interaction and other factors. Responses were coded

Findings: The transcripts were coded as follows, using the unit of one line of type in the transcript

Teacher Talk: Indirect Influence

1:	**Accepts, Clarifies, Student Feelings**	93
2:	**Praises or Encourages:**	0
	Statements which evaluate a student's ideas as right, good, or appropriate,	
3:	**Accepts or Uses Ideas of Student:** statements rephrasing learner's idea	
3a	Acknowledges Student Ideas	13
3c	Clarifies Student Ideas	72
3d	Diagnoses learning needs	0
3D.	Designs pattern of learning exp	0

3I.	Formulates directions for learning	32	
3E	Evaluates results: re-diagnose needs	0	
3s	Summarizes Student ideas	0	
4: Asks Questions:	to gain information, knowledge, or opinion (not rhetorical questions)		
4f	Asks Factual Questions	56	
4c	Asks Convergent Questions	107	
4d	Asks Divergent Questions	62	
4e	Asks Evaluative Questions	2	
4s	Asks for Sharing of experiences	437	= 5%

Teacher Talk: Direct Influence

5: Gives lecture.	facts, information, opinions, ideas, and orientation (includes rhetorical questions)		
5f	Factual Lecturing	1,008	= 12%
5M	Motivational Lecturing	0	
5O	Orientation Lecturing	229	
5P	Personal Lecturing	109	
5R	Gives or asks for Resources	86	
6: Gives directions:	physical action on the part of the learner	643	= 7%
7: Criticizes/Justifies Authority:	defends position	0	

Student Talk

8: Student Talk:	predictable response where teacher initiates talk		
8f	Factual Response	491	
8c	Convergent Response	164	
9: Student talk	- Unpredictable: student initiated.		
9d	Divergent Response	38	
9e	Evaluative Response	253	
9i	Initiated Comment	288	
9s	Student share exp./solutions	2,141	= 24%
9t	Student talking to student	175	
9Q	Student questioning another student	73	

Miscellaneous: Everything else: periods of confusion when it is difficult to determine who is talking, all talking; or no talking.

10: Silence or confusion			
10s	Silence	120	
10c	Confusion	4)	
10E	Equip. induced silence/confusion	1,808)	
10N	Name/city ID preface	209)	= 24%
10Q	Equipment induced Question "Still connected?"	147)	
	Total Units (one line)	**8,860**	

Total Interactions

Group A	40
Group B	35
Group C	19
	95

Summary of the Findings

The 24 percent downtime caused by the clipping of the audio bridge was a major deterrent. The media was not seamless and transparent, but very apparent to the users. It impeded the process of communication, however, as the students became accustomed to the equipment clipping, the percentage of clipping episodes decreased.

Students spoke 41 percent of the time and of that, shared their experiences 24 percent of the time. The teacher spoke for 22 percent of the time and of that, spent 5 percent of the time asking for shared experiences. This five percent asking for sharing generated 24 percent of the interaction by students.

For all three groups, there were a total of 95 interactions where one statement generated the next statement so that interaction was perceived to be occurring according to the earlier definition. Group A accounted for 40 separate interactions through the four hour periods; Group B had 35 interactions; and Group C had only 19 interactions. Note that the Group C which had the smallest number of students generated the longest periods of interactions.

Recommendations

This research begins to frame the questions regarding the use of audio teleconferences rather than answer all the questions. Students agreed that the audio interaction was productive as opposed to having no interaction at all. Since the students and teachers were located throughout the United States, the audio interaction was the least costly and the only alternative for group interaction.

Future purchasers of audio conferencing or audio bridge systems should note the heavy percentage of time spent that was unproductive due to the peculiarities of the equipment. Users of older audio bridges might consider the feasibility of replacing a heavily used bridge with equipment that does not clip.

The results should assist distance educators in structuring telecourses crossing borders to include the use of audio conferences to provide interaction with the instructor. The literature shows very little research in the use of audio teleconferences to provide interaction .

We should be asking the pragmatic question: What about interactivity and acceptance of innovations in communication arrangements, interactivity and novelty value (does it fade?), interactivity and utility, and interactivity and tenacity of use? What is the role of interactivity in the diffusion of media, maintenance of allegiance to channels, and the intervening impact of interactivity on use via attention? (Hawkins, 1988, p. 130)

These questions have rarely been asked or researched. Interactive arrangements help overcome barriers to adoption of the use of telecommunications for education. It is possible, claim the hopeful, that enjoyment emanating from interacting with media will lay the foundation for the development of a real (or at least surrogate but satisfying)social relationship Until appropriate data are collected, interactivity will continue to be viewed as an engaging, captivating process. (Hawkins, 1988, p. 131)

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Perceptual Interaction: A Theoretical Framework for Developing Distance Education Programs

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This study looks at the growing trend, in our rapidly changing society, toward the use of electronic media to serve learners at a distance. It states that this new pattern in education will change our notions of learning and of learning sites. Further, it asserts that one of the most crucial challenges will be in the area of program development/design. It questions the present emphasis of a linear distribution program format that is patterned after behaviorism and the industrial model and posits the need for a broader theoretical context of perceptual interaction. Perceptual interaction is defined as an ongoing transactional cycle with the complex world that involves the whole person within and among environment/s. This view considers the teacher and learner as more than senders and receivers of information. It asserts that they are active participants and integral parts of the learning experience. A three-part qualitative methodology includes: a) a critical analysis of the literature contributions that impact on the field of distance education program development/design, b) a theme analysis of interviews with a representative group of curriculum design/distance education professionals and c) the relationship of the themes to the literature. A theory of perceptual interaction is posited and a model suggested.

Perceptual Interaction: A Theoretical Framework for Developing Distance Education Programs

Background and Problem

Electronic media are becoming an important part of our educational systems both in and beyond the classroom. Where electronic media are used for education beyond the classroom they are often becoming our learning systems. According to Sewart (Keegan, 1986), "it is now no longer possible to think (of education) solely in the traditional sense of face-to-face contact" (p. 3).

Apps (1988), views this changing pattern of education as the result of a variety of converging geographic and societal forces that have affected learning needs and increased the demand for learning opportunities. This changing face of education is ranked as one of five trends that will have a major impact on the shaping of our society (AARP, 1990). This new pattern in education will change our notions of learning and of learning sites. In these changed and varied learning-at-a-distance environments one of the most crucial challenges will be the development/design of distance education programs (Neil, 1981).

Purpose of the Study

As educators struggle to come to grips with new concepts of location, space, time, teaching, learning, media, context and policy, deeply engrained assumptions will need to be questioned and reconsidered. This study questions the present emphasis of a linear distribution format that is patterned after behaviorism and the industrial model and posits the need for a broader theoretical context of perceptual interaction. Perceptual interaction is defined as an ongoing transactional cycle with the complex world that involves the whole person within and among environment/s. This transaction both informs and transforms the person as new insight is gained (Neisser, 1976). In this view the teacher and learner are no longer merely isolated senders and receivers of information, but are considered active participants and integral parts of the learning environment/s.

Methodology

The three-part qualitative methodology chosen for this study includes: a) a critical analysis of the literature contributions that impact on the field of distance education program development/design, b) a theme analysis of interviews with a representative group of professionals in curriculum design/distance education, and c) the relationship of the interview themes to the literature. The resulting relationship provides the context for a theory of perceptual interaction.

The literature contributions in part one of the methodology were drawn from three areas of study that impact on distance education program development/design and define the field in broad terms: distance education/adult learning; communications/media aesthetics, and perceptual/cognitive psychology. This literature was analyzed critically in terms of existing linear distribution theory and emerging interactive theories. A critical analysis identifies assumptions, clarifies definitions, analyzes metaphors and slogans, and questions and examines meaning.

A representative group of twenty-six curriculum design/distance education/practitioners from Wisconsin were interviewed for the second part of the methodology. Wisconsin has a long history of serving learners at a distance and offered a valuable resource for research. An ethnographic approach (Spradley, 1989) was used for the interviews which were conducted between July and November of 1989. Miles and Huberman's (1984) qualitative model of word reduction and display was chosen for information analysis. Each interview was: a) tape recorded, transcribed, examined and organized for comments under three headings: theory, program development/design, implementation; next b) these comments were examined across interviewees for recurring (common) themes and tension themes and were charted. In part three of the methodology, the themes that evolved from the interviews were related to the literature analysis to provide a more comprehensive base for theory development. Finally, a model of perceptual interaction was suggested to help illustrate the theory.

Findings and Discussion

Literature contributions

Until recently, the majority of those involved in designing programs for learning at a distance based their program development on the conventional lecture format. Emphasis was placed on developing program content to distribute as information to learners. This type of educational design followed a linear, input-output format that grew out of the work of behavioral science and industrial production (Gage, 1989). Words and phrases that describe this method were drawn from scientific and mechanistic vocabularies. The resulting formats focused on the response to content and the measurement of achievement. Scant consideration was given to meaning, thought processes or interaction. The typical setting for this type of learning situated the professor in the position of imparting wisdom and expertise to students who are viewed as recepticles for information. A growing body of research in a variety of fields that impact on distance education program development and design is challenging the assumptions that underlie these theories and suggesting a broader framework.

The first of these fields is distance education/adult learning.

While distance education is rooted in the conventional distribution model of disseminating information, recent research (Sewart, Keegan and Holmberg, 1983; Keegan, 1986) cites new and emerging theories that speak to more humanistic qualities and views: a) distance education as complex and contextual, b) the teacher as facilitator and team member, c) the learner as complex and central to the education process, and d) interaction, feedback and support as an integral part of design. Further, the field of adult learning, which has nurtured many distance education researchers is also beginning to question the linear, industrial educational mode, positing the need for a theory based on the complexity, richness and dynamics of the teaching/learning experience (Brookfield, 1986; Apps, 1988).

Research in communications/media aesthetics is moving in a similar direction. Those who actively work with education and the media are turning away from the notion of media as neutral carriers of information and are looking at media's potential for shaping the message (Zettl, 1973). Others are asserting that media are in reality extensions of ourselves (Schramm, 1977) and artifacts of our culture. As such, the composed programs must be seen as productions that include contexts of multi-layered meanings about ourselves and our cultures (Ellsworth, 1989). Still others are positing a relationship between perception, cognition and the media's potential for enhancing perceptual/cognitive development (Salomon, 1979).

Early philosophies of psychology viewed perception and cognition as separate functions: the body (sense perception) and the mind (cognition). Research over the past three decades has begun to look at the linkage of mind and body, viewing the individual in a more wholistic way. In this view both teacher and learner are seen as perceivers interacting within and among complex environments (Neisser, 1976). Education is considered the facilitation and guidance of the perceptual process within environments (Forgus and Melamed, 1976).

Terms used to describe this theoretical direction emphasize the humanistic, contextual, and interactive, but at the same time include the scientific, rational and objective as a part of the broader paradigm (Gage, 1989; Romiszowski, 1986).

Interview contributions and discussion

The fifteen recurring themes that emerged from the interviews echoed the literature in stressing the significance of an interactive theoretical approach to distance education. Points of tension surfaced in the form of frustration concerning the present situation and the desired direction. 1) Theory: a) theory was cited as key to practice, with the concept of b) interaction becoming a major focus for the distance education practitioners. Frustration was evident in comments of lack of time to keep current with theory. 2)

Program development/design: a) the increasing demand for distance education was seen as creating a need for thinking about course formats in new ways; with b) a team approach to design cited as necessary for orchestrating content/media in a meaningful way; c) this new approach to teaching, it was noted, requires educator encouragement for involvement and training for knowledge and practice; d) training is also required for learners to gain a deeper understanding of their distance education role; e) further needed is an understanding on the part of educators and learners of the characteristics/potential/limitations of the various media; f) in the actual design format, a variety of media should be considered and include multi-cognitive levels and multi-style choices in course material and activities; multi-media should be developed in a complementary way; g) at the learning site, coordinators, the learning groups, support groups, feedback and evaluation play an important role as part of the interactive process; h) further, marketing and promotion need to be designed into the program from its inception. The practical steps that need to be taken in a new theoretical approach require conceptual changes, funding and support and new methods of training that are often slow to develop. This led to feelings of frustration, as evidenced by a number of practitioners. 3) Implementation: a) the dynamic that results from the actual application of the design format includes a complex of the educator/learner/content/media/personnel/site/other learners/educational system; b) funding and institutional support determine the extent to which this can be carried out; c) they also determine the technical sophistication and excellence of the system; d) and the technological access and convenience for the learner. The frustrations of the growing need for support and resources is being partly met by e) cooperation and sharing, a growing trend.

The interactive theoretical perspective that emerged from the literature was supported by the themes that surfaced in the practitioner interviews. These professionals viewed interaction as key and noted that interaction took place in a variety of environments. Further, paralleling the literature, they considered the learner in terms of a whole feeling/thinking person. While the process of relating the two research components is still in the preliminary stages, a perceptual interaction stance (Neisser, 1976; Forgus and Melamed, 1976) is indicated and has decided implications for program development and design in distance education. A beginning model will help illustrate. Included in this model is: a) laboratory training for educators; b) the development of a design team; c) the acquisition of autobiographical sketches and learning style profiles; d) the development promotion and modules on the learner's role, media characteristics, and media expectations; e) appropriate media, contingent upon cost; f) the exploration and integrattion of meaningful interaction; g) the introduction of a variety of options and opportunities; h) *the design of activities for multiple levels of comprehension*; i) *the integration of opportunities for feedback, self-evaluation; j) the request for learner contributions* to course development; k) the inclusion of elements to *humanize and personalize* the program; l) *close cooperation with the site support environment*; and m) *involvement with policy-setting* for increased access, support and funds. A future paper will detail the model along with the development of appropriate materials.

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CERTAINTY IN ADULT EDUCATION RESEARCH AND PRACTICE: FAREWELL, DESCARTES

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Abstract

The relationship between research and practice in adult education is sometimes construed simplistically. Research results are viewed as objective and certain because of rigorous research methods. Some adult educators seek theoretical and pragmatic certitude. This orientation toward research is a residue of the philosophy of Rene Descartes (1596-1650), the originator of modern philosophy. Descartes wished to quiet the intellectual insecurity prompted by many changes that were occurring during his lifetime. He attempted to discover the correct method to gain objective knowledge and certainty. Post-modernists claim that there is no absolute ground for any cognitive claim and that every logical construction, including research results, must be deconstructed to get at the lifeworld in which that construction took place. Research results are cognitive claims that are plausible to one degree or another on a sliding scale. Knowledge is justified belief in a cognitive claim that appears more plausible than alternative claims. Researchers do not produce "hard" truths, but simply interpretations. Researchers and practitioners constitute a community of interpreters within the adult education tradition. Their discourse is by way of shared interpretations and not dogmatic pronouncements.

Certainty in Adult Education Research and Practice: Farewell, Descartes

The relationship between research and practice in adult education is sometimes construed simplistically. The practitioner, it is thought, poses problems for the researcher. The researcher undertakes studies and solves these problems. The practitioner receives solutions that have been objectively verified through research methods. The researcher provides answers that are pragmatically certain to questions proposed by practitioners. That is, the researcher's answers are certified as truths that work in practice.

Some of the central ideas about the relationship between research and practice (objectivity, method, and certainty) are rooted in developments that have occurred in the history of Western philosophy. To a large extent these ideas are attributable to the thinking of Rene Descartes, a figure historians already in the 18th century called a pioneer, if not the founder of modern philosophy (Tice & Slavens, 1983, p. 80).

Descartes (1596-1650) lived at a time that witnessed the discovery of new worlds, a revolution in science, the consolidation of the Protestant Reformation, and the widespread dissemination of ideas due to the invention, in the 15th century, of moveable type. The cumulative effect of these events was unsettling for many people. Descartes experienced, perhaps, a shattering of his worldview. He came to have a "passionate craving for intellectual security" (Neill, 1958, p. 70).

On the night of November 10, 1619, Descartes had a feverish nightmare. Agitated by intellectual problems Descartes dreamt he was caught up in a worldwind and sensed he was falling. His room was filled with thunder and lightning. Then, all was quiet and peaceful. He was awakened by a flash of light, something he took to be a revelation. He understood he was to unify all existing sciences; he understood he was to devise a fundamental method that would lead to absolute certainty through the use of Reason. This is not the tale of a megalomaniac. Descartes was equipped for serious thinking. He was later to become the originator of analytic geometry.

The Historical Situation

Descartes lived at a time when old certainties were being challenged, a time when difficult questions were replacing easy answers. Maritime exploration and discovery were in full swing. Discoveries of the 15th and 16th centuries were being exploited. In 1565 the Spanish founded a permanent settlement at St. Augustine, Florida. In 1607 the English founded Jamestown, Virginia. And in 1620, a year after Descartes' dream, Separatists founded Plymouth Colony.

"The most remarkable technological innovations of the Renaissance," write Garraty and Gay (1972, p. 661), "were printing with moveable type, the use of gunpowder to propell canonballs and bullets, and important advances in shipbuilding and navigation." Advances in shipbuilding and navigation enabled explorations; gunpowder facilitated conquest. And with exploration and conquest came stories of strange new lands, a new world.

In the decade prior to Descartes' birth there was a burgeoning diffusion of pamphlets and books that contained startling ideas in the areas of geography, religion, philosophy, and science. Educated at the Jesuit college of La Fleche in Anjou, France, Descartes was well aware of and keenly interested in these advances. Fifty years before his birth Copernicus had expounded the view that the earth rotates daily on its axis and revolves around the sun. In 1619 Galileo discovered the phases of Venus using his telescope. The Ptolemaic earth-centered view of the cosmos was disproved. Kepler, in 1627, showed that the planets moved in elliptical orbits and he did so with heavy reliance on mathematics.

It is no wonder that Descartes experienced doubt vis-a-vis commonly accepted truths. It is more likely he experienced agonizing intellectual struggles that led to his dreams in November of 1619, and eventually to the development of his philosophy.

The Cartesian Philosophy

The philosophy of Descartes (Cartesius in Latin) is not easily summarized. Central elements can be outlined, however. Descartes began his systematic thinking with methodological doubt. Initially thinking must begin in skepticism. Every idea that is not absolutely clear and distinct must be doubted. Furthermore, the testimony of the senses is not to be trusted.

Suspension of belief is necessary for the philosophical endeavor. Descartes proposed that we imagine a malicious demon of utmost cunning is out to deceive us. The entire external world may be a sham. In his Meditations on First Philosophy Descartes notes he is forced "to admit that there is nothing, among the things I once believed to be true, which is not permissible to doubt . . ." (1641/1979, p. 15).

A foundational and unchallengeable truth, however, is substantiated, according to Descartes, in the proposition "I think, therefore, I am." The famous dictum "Cogito, ergo sum" appears in Descartes' important work Discourse on Method (1637/1985, p. 127). Cottingham (1986, p. 36) expresses Descartes' insight in terms of a syllogism· Whatever is thinking exists (major); I am thinking (minor); therefore, I exist (conclusion).

Unfortunately, according to Descartes, the fact of thinking simply establishes the existence of the soul. He argues to the existence of the body by claiming that God would not allow us to deceive ourselves concerning the existence of corporeal bodies. The conclusion that is drawn is this: "that the human being consists of two separate substances and that the relation of mind to body is analogous to that of the pilot in the ship" (Copleston, 1963, p. 129). Thus, the subjective and objective orders are not only essentially different but also existentially separate. Descartes placed a great gulf between subjectivity and objectivity, between value and fact and between knower and that which is known.

Descartes also championed the notion that truth could be known with certainty if only one possessed the correct method, if only the correct mathematical formula could be applied to quantitative measurements. To this day some people speak of the objectivity of their judgments; others lay claim to objective knowledge. This manner of speaking, emblematic of Cartesian philosophy, contradicts the foundational experience that judgment is the act of a judging subject, that knowing is the operation of a knowing subject. Judging and knowing are inexorably subjective operations.

In their masterful book Descartes' Dream, Davis and Hersh note that Descartes attempted to mathematize everything, to reduce analyses of reality to algorithms, to look for total solutions through computation. This attempt had dire consequences in that meanings beyond mathematics suffered diminution. "The main philosophical problem of our generation," they claim, "is that of reestablishing meaning" (1986, p. 295). Neither mathematics, computer algorithms, correct procedures, nor exact methods suffice: these things give us measurements and modes of action but never meaning.

Descartes and Adult Education

The assumptions of Cartesian philosophy were mined by numerous philosophers, scientists, and theoreticians. What resulted was a rationalism that enthroned Reason (always rendered with an upper case R by modernists) to the disparagement of intuition, a scientism that perceived the answers to all human problems in terms of physical or material realities, and a positivism that proclaimed the attainability of certitudes through the use of perfected methodologies.

While many adult educators today recognize the limitations of empirical research in any of its modes, there may remain a number of adult educators who seek passionately after theoretical and pragmatic certainties, and the magic methods that assure the capture of these certainties. The wish of the adult educator caught up in the Cartesian philosophical heritage is this: "If only I can find the right method and the right tools, I shall have gained objective and certain knowledge that is applicable to my situation."

There remain those adult educators who hanker after apodictic proofs and indisputable research results, not adverting to the fact that research results include both findings (which appear to be "objective") and conclusions (which represent the researcher's interpretations of the findings). There remain those adult educators who lust after pragmatically certain methods of instruction and classroom techniques, not realizing that the number of variables in any real-life situation are multitudinous and that every technique needs adaptation to concrete circumstances. Techniques do not work independent of a host of situational and personal factors.

But if we admit that certitude has taken flight, if we accept the post-modernist claim that there is no absolute ground for any explanation, prescription or plan, if we recognize that any logical/symbolic/linguistic construction must be deconstructed to get at the lifeworld in which that construction took place, are we then to give ourselves over to a devouring skepticism that undermines all knowledge? Are we to surrender to the temptation of an easy relativism that all instructional techniques are equally worthy or worthless? I suggest these questions be answered in the negative. There is a middle ground between certitude and doubt, between all or nothing. The middle ground is this: Any research conclusion will be plausible to a greater or lesser degree on a sliding scale. Any research conclusion will fit somewhere on a continuum that stretches from strong to weak plausibility.

Adult education research provides plausible alternatives for practice. In other words, the findings and conclusions of research efforts will be plausible in varying degrees or not at all plausible. Likewise, pragmatic certitudes are beyond our reach. Most methods of instruction, techniques, or administrative procedures cannot be more than plausible approaches that hold the promises of effectiveness. In the field of adult education, as with all social science research, research does not generate "hard" truths.

What we must do is shed our illusions that research certitudes are available. This is very difficult since the dismissal of illusions brings in its wake feelings of insecurity and ambiguity.

Plausibility, Belief, and Action

Very few things in life are certain. In fact, some epistemologists (those who study the nature and limits of human knowledge) tell us that all knowledge is reducible to belief. Pollock's (1986) treatment of this issue is illuminating. Knowledge is justified belief. We analyse competing cognitive claims in terms of the relative plausibility of each claim and ultimately invest ourselves in one of these claims through an act of belief. Our actions are based not on absolutely certain inferences absolutely proven, but instead on conclusions that, in the light of each person's experience, seem more trustworthy or plausible than their alternatives.

Professional practice is grounded not simply on beliefs dependent on reason, science, and logic (although these are important) but also on beliefs based on creative imagery, artistic appreciation, and intuitional prompts. The element of the subjective and the dimension of personal values enter into our actions. We act not as machines but as humans. We act within a unified field defined by subjective and objective polarities, and in a manner where values and facts are interpenetrative. We act on knowledge that is not pure in the sterile sense of purity but on knowledge that is suffused with our own feelings and intuitions.

Conclusion

Someone once noted that each of us is born into a human community in which a conversation is occurring. The conversation began before we arrived on the scene and it will continue after we leave. While we are here it is our duty to interpret our world, ourselves, and what we do. We are members of a community of interpreters. To focus on the field of adult education: Researchers interpret their experiences and work for the benefit of practitioners; practitioners interpret their experiences and work for the benefit of researchers. What is important to remember in this is that the discourse is by way of interpretation and not dogmatic pronouncement.

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GRADUATE STUDIES IN ADULT EDUCATION: PAST GRADUATES' INPUT TOWARD PROGRAM RENEWAL AND EXCELLENCE

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ABSTRACT

This survey of past graduates in Adult and Continuing Education at Kansas State University provides supporting data for program renewal and progress toward excellence in teaching, research, and service. The need for follow-up evaluation and program input from past masters' and doctoral students was deemed critical for the revision of existing courses and delivery systems, for the identification of future instructional and program areas, and for the improvement of the academic unit's responsiveness in serving the special learning needs of graduate students in adult, continuing, and extension education. Data analysis revealed very favorable ratings of graduate programing including quality of student advising, instruction, and responsiveness to the special needs of adult education practitioners. Respondents suggested emphasis be given to development of performance oriented studies in human resource development subjects and gave stronger support for the Ph.D. degree as one of two degrees in the doctoral program. The results provided input relative to graduates' employment, salary, and primary job functions.

GRADUATE STUDIES IN ADULT EDUCATION: PAST GRADUATES' INPUT TOWARD PROGRAM RENEWAL AND EXCELLENCE

Introduction to the Study

The importance of keeping graduate adult education programing current and up-to-date relative to the needs of students is critical to university program renewal and development efforts toward excellence. This paper reveals how a study of past graduates can help pave the way for the development of new courses, for the revision of existing course work, for the revamping of program delivery systems, and for the determination of needed financial and professional resources.

The study focused on initiating, creating, and confronting needed changes in a graduate program of adult and continuing education. Adult education faculty, along with advisory input from graduate students, designed the study to provide input toward strategic planning efforts including reorganization of the College of Education, the development of an autonomous academic unit in adult and continuing education, and the needed preparation for meeting National Collegiate Accreditation of Teacher Education standards.

Methodology

The survey, as developed by the faculty and graduate student committee, was facilitated through the University's Division of Institutional Research and Alumni Foundation. Survey instruments were mailed to graduates from 1989 to 1974 classes and included groups of 200 doctoral and 300 master's students. Two follow-up mailings of the coded two page instrument yielded a return rate of 55 percent for both groups. The data was coded and analyzed through the University's mainframe computer using the SPSS statistical package.

Objectives of the study

Specific objectives of the study required the attainment of personal demographic information and value judgments relative to graduate program experiences. Objectives of the study included:

1) to determine the nature of how graduates have applied their adult and continuing education degree across the broad array of professional opportunity,

2) to determine graduates' salaries relative to degree emphasis, program evaluations, and occupation,

3) to determine perceived value of the existing curriculum and prospects for future studies in adult, continuing, extension and human resource development education,

4) to determine the effectiveness of the faculty's teaching, and advising, and

5) to determine the responsiveness of the academic program in serving the special needs of educational leaders in the field of adult and continuing education.

FINDINGS

Application of Graduate Degree

Over three fourths of the adult education graduates were applying their degrees as teachers or as administrators. Specifically, 40.4 percent of the graduates indicated they were serving as educators in teaching, training, extension, or counseling occupations and 36.5 percent reported their employment as administrator, manager, or coordinator of educational organizations and programs. The remaining one fourth of the graduates were employed as providers of health care and business services, as researchers or subject specialists, or as consultants. Five percent were unemployed.

Overall Rating of the Graduate Program

The overall rating of the graduate program included the programs' provision of 1) the knowledge and skills needed in their current job/position, 2) the knowledge and skills needed to advance in their career, and 3) the prestige/credibility needed to qualify for career opportunities. A summary of the data indicated that 80 percent of the graduates found their university programs to be at least fairly helpful in providing the necessary knowledge, skills, and in providing prestige/credibility needed to qualify for career opportunities.

Further analysis of the three areas indicated that 28 percent of the respondents reported the program to be extremely helpful, 38 percent, very helpful; 16 percent, fairly helpful; 10 percent, of some help; 5 percent, not helpful.

Relative to the graduates knowledge/understanding of other graduate programs in Adult and Continuing Education, their program was rated as follows:

Well above average..........	33%
Somewhat above average......	33%
About average...............	26%
Somewhat below average.......	2%
Far below average............	1%

In terms of the above findings, respondents reported the graduate program had met their professional needs very well.

SPECIFIC ASPECTS OF THE GRADUATE PROGRAM

Quality of Instruction

Instructional quality was assessed on a five point scale and included the opportunity for open ended response for the graduates. Although 75 percent of the graduates reported the quality of instruction to be good to superior and 13 percent reported it to be satisfactory, 9 percent felt the quality of instruction needed to be improved. Open ended comments called for faculty to review course content relative to reduction of overlap and to tie course content and methodologies more closely with graduates occupational/professional demands.

Quality of Advising from Major Professor

Quality advising by ones' major professor was determined from responses to the following areas: (1 clarification of professional goals, (2 value as a role model, (3 assistance with projects/dissertations, (4 assistance in gaining research expertise, (5 assistance with publications, and (6 helping with job searches and employment.

Results indicated that quality of advising was highest in the areas of goals clarification, role modeling, assistance with projects (independent studies) and dissertations, and in gaining research expertise. The areas most frequently indicated for improvement included (1 advisory assistance in job placement and (2 help with publications which received 25% of the responses for that category. Open ended comments called for faculty to facilitate graduate student networking from related disciplines, professional groups, and faculty.

Graduates indicated their judgment relative to the program's flexibility and responsiveness to the special needs of adult students on two different scales. Even though the data did not indicate difficulty in these areas, reoccurring comments called for closer faculty contact with students (especially at the masters' level), for more summer school evening courses, and for improvements in off-campus course scheduling and marketing.

PROGRAM VITALITY

Current and future vitality of the graduate program in adult, continuing, extension education and human resource development was accessed through three direct questions regarding (1 the continuation of the doctoral program, (2 the importance of major subject (emphasis) areas, and (3 appropriateness of the Ph.D and the Ed.D. as terminal degrees in the field of adult education. Additional open ended questions were solicited.

Ninety six percent of the respondents indicated that a graduate program in adult, continuing, extension education and human resource development should be continued at Kansas State University. Specific program emphasis areas of study were suggested for all existing subjects. However, data indicated that primary emphasis should be provided for continuing education and human resource development while extension education received less support. Adult basic education/literacy received the least important ranking.

The most appropriate doctoral level degree for the professional field of adult education, as reported by the graduates, was as follows: (1. Ph.D., 92 percent and (2. Ed.D, 6 percent. Two percent did not respond to this category.

COMPARISONS AND RELATIONSHIPS

The survey instrument and subsequent review process allowed for numerous comparisons and relationships in the data analysis. Some of the relationships deemed important by the faculty and review committee members included (1 the degree completion time, area of employment, salary, job description and over all evaluations on quality of instruction, advising, and program sensitivity to adult learners. Tests were also conducted over program subject matter areas and program flexibility.

RECOMMENDATIONS FOR GRADUATE PROGRAM EVALUATION AND RENEWAL

The prospect of securing meaningful information for graduate program renewal and development is an exciting and attractive endeavor at first glance. However, the planning, implementation, conduct, and application requires considerable resources, time, cooperation, and commitment. The appropriate utilization and interface of the findings with the graduate programs is perhaps the most difficult aspect of such an undertaking. The following recommendations may be helpful to universities undertaking similar projects. In this respect, the following ideas are presented:

1. Surveys and related input activities can not stand on their own. At best, they are an important part of an on-going program evaluation and renewal process.

2. It is important to keep all instrumentation, procedures, analysis, and reporting simple and straight forward. Information, from input to application should be easily understood and practical. Questions should not be addressed unless answers will have a meaningful impact upon the academic program.

3. Identify all possible applications of the data prior to instrument development so that special requests for survey information may be adequately addressed when requested.

4. Involve all significant parties in the design of the instrument, in the assessment procedure, and in the application of findings.

5. Do not overlook existing valuative data and resources. Include input from on-going faculty/program evaluations, findings from other academic programs and universities, administrative reviews, and performance information from past graduates.

6. Manage each aspect of the evaluation/renewal process expeditiously in order to maintain commitment, allow for adjustments, and provide for the earliest possible feedback.

Program evaluation and renewal in graduate programs for the development and continuing success of adult educators can no longer be taken for granted. The renewal process must be holistic in terms of resources and application. Above all, the renewal process, including the assessment of practicing graduates, must be systematic and practical.

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ABSTRACT

TITLE: HOW FAMILY PHYSICIANS LEARN TO TEACH RESIDENTS

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This study was undertaken to investigate how family physicians learn to teach and to identify physicians' needs and skills for teaching.

Data were collected using an inductive approach through interviews with teaching physicians. Telephone interviews with former residents, now practicing physicians in non-teaching positions provided additional sources of data. To extend the data base, a survey instrument was developed from the interview data and was sent to a random selection of physician members of The Society of Teachers of Family Medicine.

Responses showed that family physicians do not learn to teach in a structured, systematic process before they begin teaching. They start teaching while they are residents and learn to teach through experience. Family physicians who continue teaching in training programs are motivated by the enjoyment, the satisfaction, the intellectual stimulation of teaching, and by making a contribution to medicine beyond patient care. The importance of learning to teach is recognized by family physicians who identified beneficial experiences including seminars, fellowships, workshops, faculty development activities, professional meetings, and feedback, including videotaping. Skills identified by family physicians for effective teaching include clinical skills developed through private practice experience, the ability to assess learners' needs, enthusiasm, and communication skills.

How Family Physicians Learn To Teach Residents

The rapid growth of family practice residency programs, from 15 approved programs in 1969, to over 380 in 1988, created a demand for qualified and effective teachers. Family physicians have shown interest in clarifying what constitutes effective teaching behaviors and skills through their participation in faculty development programs designed to improve teaching.(1-3) Family physicians continue to be concerned with improving their clinical teaching skills because clinical teaching is the core of education in family practice.(2) In 1977 family physicians were surveyed and 80% felt learning to teach was a high priority.(4)

Grants awarded for faculty development programs have provided physicians with training in research, administration, and teaching.(5) Additionally, the creation of The Society of Teachers of Family Medicine (STFM), a group of professionals teaching in training programs, provided evidence of support for teaching.

Characteristics of effective teachers are extensively reviewed in the literature.(2, 3, 6, 7) Successful educational formats and approaches used for faculty development have also been investigated and reported.(5, 8-13)

It is difficult to suggest formats without first understanding how practicing teachers learned to teach. This study was undertaken to investigate how family physicians learn to teach and to identify the needs and skills of those physicians for effective teaching.

METHOD

The grounded theory methodology, a research method used to generate theory that emerges from the data collected, was used in this study.(14) This methodology was chosen so the results would be grounded in a firm understanding of the praxis of teaching physicians.

Family physicians received letters requesting their participation in the study. All physicians contacted by follow-up telephone calls agreed to participate and times were arranged for face-to-face interviews. Participating physicians received an advance letter with the intended interview guide questions to ensure the consistent inclusion of five questions:

1. How did you learn to teach residents?
2. How would you describe your abilities as a teacher?
3. What skills are necessary to teach?
4. Which experiences were most beneficial for you in learning to teach?
5. What advice would you give a resident who is interested in teaching?

Research questions were presented using an inductive approach which allowed the physicians to formulate their own framework and operational definitions. Field work using open-ended questions was started without a hypothesis. Nine face-to-face interviews were conducted in October 1988, with family physicians from five training programs in the Chicago area. Three physicians were women and six were men, with resident teaching experiences ranging from one year to ten years.

Interviews were audio recorded and transcribed. A review of the data was completed and relevant statements, phrases, and words were extracted. Data were coded and placed in seven categories that emerged, forming tentative hypotheses. Categories were determined based on the frequency and the consistency of the responses, and from the emerging patterns that suggested utility in describing how physicians learned to teach. This process continued until saturation when additional interview data provided no new information and the categories were filled.

Triangulation, a process of comparing data relating to the same phenomenon, but collected from different sources, was an intermediary step used to collect data.(15) Former residents from one Chicago training program who were now practicing physicians in non-teaching positions, were interviewed by telephone. The questions forming the base of these audio recorded interviews were:

1. How do you think the faculty learned to teach?
2. Do you think teaching was a high priority?
3. Describe the quality of the teaching.
4. What would make the faculty better teachers?

A continuing data collection instrument was developed and reviewed by a three person advisory committee of university professors in the field of education, and suggestions from the review were incorporated into the instrument. The instrument was mailed to 50 physicians randomly selected from the STFM membership directory as a comparison group with those physicians interviewed. Physicians received a cover letter with the instrument, and a return envelope to facilitate the return.

Twenty-six responses (52% return rate) were received with no follow-up. Of the 26 survey responses, 18 physicians taught seven years or more, and eight taught less than six years.

RESULTS

The seven categories that emerged from the data collected in the nine interviews and 26 surveys of teaching physicians are listed. The combining and comparing of data from two sources yielded richer results and increased credibility when responses were consistent from both sources of data.

WHY DO FAMILY PHYSICIANS TEACH?

Four major motivations are expressed:

1. Teaching is viewed as a way for physicians to fulfill a larger goal. The physicians state teaching is a mission, that it offers a way for them to make a contribution to medicine beyond patient care, and it is a way for them to influence physicians in training.

2. Teaching is intellectually stimulating and teaching provides an environment that demands physicians are current on medical knowledge. The physicians themselves learn by being close to people with inquiring minds. One physician said, "I got into this business because you have to stay sharp when you are working with sharp minds."
3. Teaching is gratifying and provides a lot of job satisfaction because physicians are appreciated for what they give to residents. One responded, "Like a mouse in a cage, I keep coming back for more."
4. Positive feedback offers reinforcement to the physicians that they are doing a good job. One respondent said, "I find positive reinforcement for what I'm doing, especially when medicine is not as fun coping with all the other crap that you do other than medicine."

PHYSICIANS' FRAMEWORK FOR TEACHING

Physicians indicated the following typology to describe a progressive level of teaching requiring different skills and techniques:

1. Teaching by explaining what they do when they demonstrate skills and supervise and coach others with procedures is the initial exposure to teaching.
2. Teaching at bedside rounds is the most frequent setting for inpatient teaching and centers on patient management.
3. Clinical precepting in a one-on-one situation is the third level for teaching.
4. Didactic teaching including lectures and presenting workshops to colleagues at professional meetings is a more advanced level.

HOW FAMILY PHYSICIANS LEARN TO TEACH

Family physicians do not learn to teach in a structured, systematic process before they start teaching. All physicians interviewed had started teaching while they were residents and none had formal training. In the surveyed group of 26 physicians, 11 started teaching as faculty in a program. This indicates that physicians rely heavily on the on-the-job training model and learn by the experience of doing. One physician said, "Much of it is trial and error. It's not so much you actually go to a class to learn to teach or anything like that in medicine. I learned to teach by placing myself in teaching roles rather than going to a class to learn how to teach. No one can teach you how to teach medicine." A five-point Likert-type scale was used to assess if the physicians surveyed thought it was important to learn to teach (1= not important to 5= very important). The 25 responses (one physician did not respond to this question) clustered near the top of the scale with a mean of 4.5 indicating 92% thought it was important.

SKILLS NEEDED TO TEACH IN FAMILY PRACTICE

1. Physicians need skills to conduct needs assessment because residents are a diverse group and it is a challenge for the physicians to meet all the residents' needs.
2. Acquiring clinical competence from private practice experiences is stressed for physician teachers to become more credible role models.
3. Respondents recognize the need to acquire and use good communication skills.
4. Enthusiasm is named most frequently as an important characteristic. One physician stated, ". . . I think if you come across as a kind of mopey educator nobody is going to want to ask you questions . . . but if you are enthusiastic . . . they come to you."

TEACHING STYLES IDENTIFIED

Styles of teaching are varied, but are not the authoritarian model described in medical literature 20 years ago. Physicians use the following words to describe their styles: laid back, exemplary, integrating, classical, facilitative, informal, directive, consultative, traditional, and Socratic, the most frequent style named. Styles change in the different settings of bedside, lectures, and precepting.

TRAINING EXPERIENCES THAT PROVED MOST BENEFICIAL

Experiences the physicians participated in to learn to teach have many formats and include reading, seminars, faculty development activities, professional meetings, fellowships, learning from role models and mentors, and feedback including videotape.

ADVICE FOR RESIDENTS INTERESTED IN TEACHING

Residents should acquire private practice experience to give them confidence in their skills as clinicians and to be more credible role models. They should also explore learning to teach through faculty development activities, through a fellowship, and in their own words, "go for it."

IMPLICATIONS

In the past, good clinicians were presumed to be good teachers; few had special preparation for their educational task. Learning to teach was possibly undervalued, or lack of opportunities to learn teaching skills existed, or there was extensive reliance on the on-the-job training model. Reliance on this model can be satisfactory if the initial trial-and-error experiences are supportive and positive. Faculty development programs can also be satisfactory and more efficient by providing consistent training in both theories and practical techniques. Educational foundations and continual upgrading of skills can help physicians increase their teaching effectiveness, maintain their enthusiasm, and bring deeper meaning to their praxis. Emphasizing adult learning principles can offer stimulation to teachers just as teaching helps physicians remain current on medical issues.

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APPLIED FUTURES RESEARCH: A PRACTITIONER'S ROLE

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ABSTRACT

Futures studies theories and research methodologies are increasingly being applied in collegiate and corporate settings. How can this body of knowledge be useful to the practice of adult educators involved in community development settings? This inquiry examines the contributions and limitations of ethnographic futures research and other futures studies, community based approaches to address futures-focused community planning, and action and citizen empowerment.

APPLIED FUTURES RESEARCH: A PRACTITIONER'S ROLE

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Citizen empowerment ... the cry of the future. To combat the social and economic decline of our rural, suburban, and urban communities, many practitioners in politics, social services and education aggressively advocate for the development of a spirited and informed citizenry to collectively and proactively take charge to shape their community's long-term direction and future. Others define which characteristics are necessary to create and enable self-directing, viable communities.

There is a small, but evolving future-studies research base from which adult education practitioners can draw upon to facilitate this needed citizen-directed, futures-focused thinking and action. This paper reviews the futures-studies research, introduces and critiques a recently-implemented community self-renewal program. The program builds upon that small foundation and attempts to fill gaps within future-studies literature.

FUTURE STUDIES AND RESEARCH

A society that is not predestined or otherwise constrained to a particular long-run end state is the fundamental assumption of futures studies and research. The future is likely to be significantly different from the present in many important ways. Futures research is concerned with understanding long-term social conditions, their prospects for change, and the direct and indirect consequences of these changes--where society is heading and the degree to which this destination can be altered.

Futures research is also concerned with understanding how various social groups (stakeholders) concerned about the evolving conditions may assess alternative futures. The objective of studying alternative social conditions is to gain an understanding of where these conditions are likely to lead, where they can lead, and where different stakeholders think they should lead (Enzer, 1983).

For many years, the private sector, specifically large corporations, have utilized futurists to assist members of upper-level management in developing innovative and forward-looking approaches to technical development and personnel management. Corporations recognized how proper attitude and thinking techniques can pay dividends in the marketplace. Now, adult educators can broaden that futures application from a rigid, hierarchical entity - the corporation - and adapt futures-thinking to the ever-changing situation found in our communities nationwide.

Several generations ago, communities contained greater stability and were easier to define than today. Change is occuring so rapidly; basing future directions or programming on straight line trend focusing or extrapolation has limitations. In many aspects of individual and community life, the past is no longer the best predictor of the future. To respond to the issues of today and to be positioned to create the future tomorrow, adult educators, personally possessing a futures way-of-thinking and using futures studies methodologies, doing applied futures research through their practice, can be instrumental in leading and integrating future-focused, comprehensive community development.

APPLIED FUTURES RESEARCH AND PRACTICE ... NOW

Several approaches and methodologies have been implemented to address the question of futures-focused community planning and action. Ethnographic Futures Research (EFR) developed by Robert Textor (1979) helps citizens within a specific culture to explore alternative scenarios as they look toward the future within their culture. A culture could be as distant as a group of buddist monks in Thailand, as close as an inner-city neighborhood or members of a community in Greater Minnesota. An EFR interview is a loosely structured, in-depth, yet open-ended dialogue between the ethnographer and interviewee. As the ethnographer remains alert to shifts in the direction and scope of the scenario, the interviewee is encouraged to take ownership of the interview and the scenarios. One general way in which an ethnographic interview is guided occurs when the parties explore pessimistic, optimistic and imaginary omniscient clairvoyant future scenarios within the culture.

Another futures model utilized to attempt to answer the complex question of empowering citizens to incorporate futuring into their everyday planning was implemented in Georgia. The Georgia: 2000 project (Norman and Williams, 1989) used an action research model to conduct futures-oriented public policy education within every Georgia county during a three-year span. The Georgia: 2000 model used University Cooperative Extension Service personnel extensively to work with members of the community to analyze each county with a focus on five issues that the Georgia: 2000 staff felt affected each county: (1) managed growth; (2) land and water; (3) governance; (4) markets for Georgia products; and (5) education. This project was a one-time attempt to assist counties at looking toward the future.

Though the Georgia: 2000 educators noted that each community did enhance civic knowledge, the knowledge obtained was not community-directed, but was instead dictated from staff outside each community. This model was highly structured and controlled by the Georgia extension faculty. The faculty chose which five issues would be studied in each Georgia county. Though the five issues chosen are important for the future of each county and the state of Georgia, the citizens of the specific communities were not involved in that part of the process. This is a more structured model and differs from the EFR model where the interviewee is encouraged to control the interview and the futuring process.

Another model achieves a middle-ground between the EFR and Georgia: 2000 models. Anticipatory needs assessment developed and chronicled by Jerry Wade at the University of Missouri-Columbia (1989) issues a challenge to community development professionals of the 1990's. Wade argues that the world has changed in the past 30 years, but the community development community has not. According to Wade, if community development professionals continue the past-to-present focus of community development to addressing a community's felt needs through programming then the community development professional will follow the dinosaur as an extinct species on this planet.

Wade advocates not only that the community development professional must shift a community's focus from tinkering with the status quo to radically exploring the future, but that the maintenance system of program design and delivery must be changed to a proactive system. Creating an atmosphere conducive to innovative learning and disregarding the maintenance learning methods of the past is the vehicle whereby the community development professional can link present-to-future programming and positive future results, according to Wade.

Contrary to the Georgia: 2000 model, Wade's anticipatory needs assessment permits and advocates more freedom to communities to chose programming tailored to each group's needs, but is not as open-ended, not does it explore all the possibilities of EFR alternative scenario development.

AN ALTERNATIVE MODEL: PROJECT FUTURE

Though the future-focused community development literature base is growing, when broadly analyzing the methodologies, significant gaps remain. None of the methodologies address futuring in a comprehensive manner and none of the models adequately link findings of future-studies research to practice. Project Future is presented here as an alternative model to address these deficiencies.

Project Future combines the strengths of EFR and Georgia: 2000 to develop an enhanced model for futuring that can be easily adapted to organizational and professional settings. Project Future is a comprehensive, holistic, citizen-directed, self-perpetuating community development program. The citizens of the culture, define the community and establish their own goals for the future of their community.

With one notable exception, the Project Future model utilizes the flexible, open-ended interview from EFR where the interviewee is encouraged to take ownership over the interview. The Project Future model asks citizens from within the community to interview each other, to discuss and decide the priorities and to plan for the future of their community as opposed to the ethnographer's role as an external observer in an EFR interview. Incorporating community members into every stage of the process permits the citizens to take ownership and is vital to the model's success.

The use of alternative scenarios is another distinction between the EFR model and Project Future. While EFR interviews stress the utilization of alternative scenarios, Project Future utilizes the preferred future choice where all members of the community individually decide what they would like their future communities to resemble. The communities then meet to approve a vision statement establishing a consensus blueprint for the community's action to achieve that future.

Project Future's desired audience is similar to the audience that the Georgia: 2000 project sought to address. More than twenty Minnesota communities have voluntarily chosen to adopt a futures strategy with the Project Future model, instead of making the analysis mandatory as in Georgia. Only communities that choose Project Future will use it as a development plan. Another difference between Project Future and Georgia: 2000 is the number of topics addressed. Though the five topics chosen in Georgia: 2000 are almost always topics of futuring discussion within the Project Future communities, Project Future communities discuss and address topics far beyond the scope of Georgia: 2000 topics. Project Future communities have adopted futures strategies to deal with community housing and recreation problems, but also have enhanced their community through development of community theater and beginning a newspaper.

The role of extension faculty differs from Georgia: 2000 to Project Future. Though extension faculty is extensively involved in both projects, extension faculty in Georgia: 2000 designed, implemented, instructed, controlled and completed the project, while Project

Future extension faculty designed the model, but citizens within the community actually implement the program. Citizens teach each other about achieving community goals and enhancing citizenship within the community. Extension faculty assist the communities only as a resource when the communities approach the faculty for technical assistance. Another critical distinction between the Project Future and Georgia: 2000 is that Project Future is designed to never finish. Unlike Georgia: 2000, Project Future is an ongoing process.

Though Project Future draws upon the strengths of the opposing models, EFR and Georgia: 2000, the Project almost mirrors Wade's anticipatory needs assessment theory. Wade writes how the past-to-present felt needs approach to community development has outlived it usefulness. Similarly, Project Future materials and practitioners stress how the current Extension Service method of operation must change and break with the past. When Project Future establishes a goal within a community of breaking the 'nitty-gritty', day-to-day way of thinking, it sounds similar to Wade's cry for innovative thinking rather than maintenance thinking within communities.

Despite several similarities, Project Future has distinct differences when compared with Wade's anticipatory needs assessment. While Wade's ideas are intriguing, he has not developed a full-scale mode of operationalizing his concepts within communities. Project Future has grown from the concept to the implementation stage, providing a link from research to practice that Wade has not achieved. Project Future faculty and practitioners are learning from their results.

LESSONS LEARNED

As the number of Project Future communities has grown from five pilots in 1988 to more than 20 in 1990, certain themes can be observed. Further, while engaged in doing applied futures research work in a community setting, persistent questions emerge.

A first and fundamental question is, can broad-based paradigm shifting be achieved on a large-scale? Project Future faculty have observed present-to-future thinking achieved in all of the communities, but not on a consistent basis. Because Project Future is attempting to fundamentally alter the manner in which members of communities view themselves, sporadic innovative thinking was expected, but how long communities needs hands-on assistance from the Project Future adult educators in not known. By design, hands-on assistance from Project Future faculty and practitioners was committed for only two years.

Secondly, how do communities and staff maintain that early group excitement and momentum? Ideally once established within the community, futuring is a perpetual process whereby the community meets as often as it chooses to help the community adapt and achieve new goals 10 years from now that it didn't forsee in 1990. As new persons enter the community and as children grow, new resources and ideas are generated for the community. While some of the pilot communities have been able generate that necessary support and ownership to achieve the design goal, other communities have become bogged down in the action phase of the project and Project Future staff members have had to re-enter a community to refocus a steering committee.

Often, communities have a bias for action that inhibits the community from establishing a solid foundation for action from a vision statement. The third question that remains unanswered revolves around the tension between visioning and the urge for immediate action. How does the practitioner know when the action phase should begin within a given community? The answer to this question is linked to the answer of the first question because the bias toward action often indicates that a community wants to address a need identified with the community's past. This shows that the community has not fully shifted from a past-to-present focus to a present-to-future focus.

Despite these questions and concerns there are positive conclusions that can be drawn from Project Future. First, there is no doubt that citizens throughout Minnesota have shown they can take ownership of this model to achieve their short-term and long-term futures. Because of its early success within communities, the model can be easily adopted to any organizational setting. The model has been successful in groups as large as 600 and as small as six. It is a priority setting process through which both short-term and long-term goals can be achieved.

Positive benefits have also accrued to the adult education Extension staff. Critics claimed that University Extension is largely reactive in the face of change and incapable of anticipating trends and responding proactively. By leading this process for communities, the University of Minnesota extension faculty has become more futures-oriented in its thinking and planning.

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Personal Transformation through Participation in Community Action: A Case Study of Six Leaders

Abstract

Adult education needs to acknowledge the powerful learning that occurs when adults participate in social action. Six leaders in the Lincoln Alliance, a formal, action-oriented, broad-based community organization that existed in Lincoln, Nebraska from 1976-1982, were interviewed. Each leader's responses were assessed as to the personal change that each experienced as a result of his/her participation in democratic grassroots organizing. Two focused their goals. Three had cultural reality mind-shifts; and one had a developmental level change. Informants' thinking indicated a shift in meaning perspectives (Mezirow), transitions into vision-logic or transpersonal levels of awareness (Wilbur), cultural reality mind-shifts (Rivera) and conscientization (Freire). The Lincoln Alliance served as a plausibility structure for the alternative realities that emerged as a result of the action and reflection process.

The data generated shows that community organizing as a catalyst for personal and social transformation promotes critical reflection and personal/social reconstruction of reality. Implications for practice suggest that adult educators can contribute to both personal and social change through involving students and teachers in community organizing activities.

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Personal Transformation through Participation in Community Action: A Case Study of six Leaders

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Background

Adult education has its origins and historic roots in the reform movement of the 1920's. John Dewey, Eduard Lindeman, and Dorothy Canfield Fisher, to name a few, all advocated alternative ways to teach children, adults, and parenting, respectively. Each was a social activist during the Progressive Era which is considered the birthplace of the adult education movement. Study of social action has focused, traditionally, on the transformation of social structures which dehumanize or prevent people from their right to adequate shelter, food, clothing and quality of life. Recently, Jack Mezirow, et al. (1990), discusses personal change as a result of social action. Mezirow's process is derived from research on women returning to school after experiencing consciousness raising groups. He describes the process as a disorienting event that triggers the reorganization of meaning perspectives which are of socio-linquistic, epistemic or psychic in nature. These perceptual or cultural codes help us organize our lives in a way that make sense of our world. As social changes occur, however, these meaning perspectives change.

Theoretical framework

There are many people (Flavel, Riegel, Basseches) who have pointed out that there is a cognitive structure beyond or higher than Piaget's "formal operational." Ken Wilbur (1986) describes four levels of development which are vision logic (the dialectical), psychic (higher intuitive or self transcendence), subtle and causal levels which transcend the collective unconsciousness and archetypal self to form one gestalt. The leaders in this study, moved in thought from formal operations to vision logic or shifted their perspectives within the vision-logic level. This involves more differentiated, integrated, and inclusive ways of perceiving reality. One person went beyond vision logic to psychic. Transformation is more than a subtle but significant personality change. Personality changes can be due to a change in significant others, a change in social groups, a change in jobs, etc. Transformation for this study means a change in level of development or an alternation/expansion of awareness.

Vision-logic which is the transition stage before the transpersonal levels has been called by others the "dialectical," "integrative," or "creative synthesis" level of development. It is characterized by an integrated ego, congruence, balancing of previous understandings with new understandings, and self actualization. In vision-logic the mind has the capability to vision or apprehend a mass network of ideas (panoramic logic) which influence each other and interrelate creating a holistic view of reality. Differentiation of single ideas is possible but a system or totality is apparent in a single view. The structure of the mind at this level is highly integrated and considered the "higher mind" (Wilbur, p. 72). The next level, the psychic level, is beyond the rational, logical realms familiar to most people in this culture at this time. In the psychic level, "the individual's cognitive and perceptual capacities apparently become so pluralistic and universal that they begin to 'reach beyond' any narrowly personal or individual perspectives and concerns" (Wilbur, p. 72). At this level an individual learns to inspect the subtleties of the mind's cognitive and perceptual capacities and consequently begins to transcend them.

Movement from one level to another has several characteristics. As adults experience the action-reflection process of social action they seem to go through the following process: 1) Their present reality becomes challenged. They begin to differentiate the elements of their present reality and transcend them as they encounter new information. They are pushing or moving toward a new level of development or expansion of consciousness. 2) They descend or regress by clinging to the present level and experience discomfort, conflict and pain. 3) Horizontal movement creates integration of new ideas and thoughts as they become consolidated and preserved at the new level. 4) Differentiation continues and separation-negation with past thoughts and understandings is complete. For the self to successfully transcend to the next level it must "die" to the present level, detach or dis-identify with that level in order to ascend to the greater unity, differentiation and integration of the next higher basic level (Wilbur, p. 81).

To move or expand to another level of consciousness requires the forming of a community that supports the new awareness and alternation that persons experience as a result of social action. Berger and Luckmann (1966) call this a plausibility structure. The plausibility structure is the social base for maintaining subjective reality as well as the base for the suspension of doubt without which the definition of (the new) reality in question cannot be maintained in consciousness (Berger and Luckmann, p. 155). The collective plausibility structure legitimates the new reality people are experiencing. As class consciousness becomes evident in social action and as false consciousness falls away, it is essential that the group maintain and repudiate all alternative realities. This is difficult to do particularly if the old realities are deeply ingrained, such as "I am helpless, unimportant, insignificant, unable as one person to effect change, etc." The process that the Lincoln Alliance used includes deciding the issue for work, researching it, discussing possible actions and their consequences in the collective, confronting individual fears and powerless self-images, demythologizing the elite and "the world as it is," acting as a group in the public arena, and critically reflecting on what happened and what was learned in the process.

The new reality that the group sustains as a result of action must be reinterpreted, represented (Freire), integrated (Wilbur), and objectified (Berger and Luckmann) by each person. Frequently this means critical reflection on past interpretative schemas which must be alternated. People often speak of their pre-alternated state as "before I saw myself as a follower or a person who nurtured in the background; now I see myself as a leader" which was the case of Naomi in our case study of Alliance leaders.

Both Paulo Freire (1970) and Bill Rivera (1972) acknowledged that critical education can transform people. The process of acting on felt needs in the community, followed by critical reflection, can change perspectives that cause either a developmental level change or a cultural rational mind-shift (Rivera, p. 61).

Methodology and Case Studies

The Lincoln Alliance was a broad-based coalition of organizations which formed from 1976-1982 for the purpose of acquiring power, the political and economic agenda in Lincoln, Nebraska. Most of the leaders were trained at the Industrial Areas Foundation (IAF) national community organizing training lab. The Alliance was modeled after the work of Saul Alinsky and his People's Organizations that formed around the country about that time.

Qualitative methodology was used for the research project. Triangulation of the data occurred through semi-structured interviews, member checks and analysis of documents, newspaper clippings, minutes of meetings, and IAF training materials.

The research questions that emerged from the interviews were as follows: Is transformation of reality evident in leaders as a result of a critical education venture? What is the nature of that transformation? Why did they participate in such a project and what assumptions guided their actions? The last question is beyond the scope of this limited paper.

For this project, the researcher chose in purposive sampling six leaders who had various roles to play in the Lincoln Alliance. There were three males and three females. Four came from church organizations; however, two of those were members of an unsanctioned church group. That is, the administrative board of this church did not officially join the Alliance. Only groups could join the Alliance, not individuals.

Two in the group were part of the original founders of the Lincoln Alliance, IMPACT, which existed two years prior to 1976; three were active during the zenith of activity in the Alliance; and one was a leader during its decline. Five were trained by the Industrial Areas Foundation; one was not. Four were officers; two were presidents and two were vice presidents. Two were nonofficers but very active in other capacities. Four were in their early to mid-thirties when the Founding Convention occurred in 1976; one in her mid-40's and one in his early 50's.. All six leaders were not native Lincolnites; all moved to Lincoln in the late 1960's and early 1970's. Three are still organizing; two have maintained their present positions in Lincoln; one switched careers.

To protect the anonymity of the leaders and to personify them for the reader, the researcher has given each of them new names. One of the characteristics that was seen in all cases is a perceived balance achieved between their inner and outer worlds as a result of the Lincoln Alliance.

The first two, Esther and Morris, explain a change in focus, seeing the world with a new prescription in their glasses. Naomi, Deborah and Paul had a change in cultural reality or, as Rivera (1972) says, their vision was impaired and they got glasses for the first time in their lives. The last one, David, had a development level shift.

Having grown up with a pastor as a father, Esther always felt a sense of responsibility to the community but had not found, prior to the Alliance the vehicle for playing that out. "When the Alliance came along it fit ideas from childhood I had been raised with that you have some responsibility to the community and that's not just taking soup to someone who was coming home from the hospital. It was looking at some larger societal questions." The Alliance helped her focus her career. "In ways large and small, the Alliance convinced me that I could do the public role but that I wasn't fond of it. That I was better at and more comfortable with the role of researcher, group strategy, process person. I guess partly because of the Alliance experience I decided I would enjoy going back to school getting a masters in political science and getting a job as a researcher in a department in state government. . . Before the Alliance I probably would have gotten a degree in library science if I had gone back to school." Therefore, Esther focused her life as a result of the Alliance experience and is now teaching college political science in a small liberal arts college in the Midwest.

Morris was clearly intrigued with the process of the Alliance. He saw it as the opportunity to give grassroots people a chance to have power. He was very concerned with the successes, the outcomes of the Alliance, the accomplishment of the agenda. He was not particularly interested in the personal development of the people or himself. He saw the group as a power organization and visioned it as one where people learned to set and achieve their own goals. People's job was to know what they wanted to get out of everything they did and learn appropriate strategies for particular issues. "The Alliance I think was a good thing for me because it helped me focus my thoughts. It helped me frame the right questions. You know that's really weird for me to say because I went to graduate school in political science but studied politics as an outsider looking in through a microscope. It's different when you're involved as a participant. It's another thing altogether. You can be trained to analyze the phenomena objectively and try to explain it. It's another thing altogether to have a subjective sense of how the thing should work and where it should go. That's another ball game." Morris saw that it was impossible for individuals alone to accomplish much in terms of real political power, setting the agenda. "You really needed something city-wide. You needed a forum where people could get together and discuss issues and decide what they wanted to do. It was a very exciting thing. You learned about yourself, about others, and about the community. It gave you experience in doing something important; in being a part of an effort involving other people where they have to count on you and you have to count on them. And when you got some victories it made you feel good. It made you feel efficacious."

But the answers that Morris learned about how to gain power that were connected to the Alliance proved not to work. There were some successes, like getting railroad property on the tax roles, stopping the Northeast Radial, and securing School Board elections by districts. But the issue of stopping the redlining by banks in poverty areas of town was unsuccessful. It was a discouraging thing for him and he began to question the inordinate amount of time and effort that citizens put forth with limited payoff on real power issues. People got burned out, tired. "The business community networks naturally during working hours; they see making contacts with other businesses as in their self-interest. But citizens have to meet after hours and sustain enormous effort against the status quo," according to Morris.

Naomi was involved in leading the organizing effort of the 27 groups for the first Founding Convention in 1976. She saw the distinction between "working in the community and being in community." She was one of the ones who saw the Alliance as "a vehicle for people to change, to regroup their own agendas." She recognized the need to mix an organization with both those people who wanted to organize for power and those who wanted to empower for action and growth. For Naomi, the Alliance experience caused in her a "genetic change because I thought of everything differently. Before, I saw injustice but I never thought it could be changed. I never thought I could change it." The internal movement she experienced "shifted me in the family, shifted me in the community, it shifted me in friendships, as a mother." For her, the shift cannot be made by only thinking about it. "I mean it's a doing thing." Naomi is using her organizing skills as the director of a Nebraska state agency.

Deborah learned through the Alliance that the "'world as it is' is really a distorted mirror image of what we would like it to be. When I think of a zoning law, for instance, the reality seems to be a particular kind of duplex can be built in a particularly zoned district. But what happens is that there are loopholes that alter what you thought was the bottom line. . . I think that the way I look at things since the experience of the Alliance will forever be altered. I no longer just see a neighborhood. I see what could be. I look at a candidate running for public office and I ask a lot of different questions than I used to. . . I no longer look at the world through rose-colored glasses." Deborah is now working as an administrator for Lancaster County Courts in Lincoln.

Paul had a conversion experience in the Alliance, as he calls it. "I started seeing connections between my faith and how to act in this world in accordance with that faith... It became obvious that you could not have enough power to hold people accountable in accordance with Judeo-Christian values. The power had to be institutionally based which is the church. I either had to forget about being an effective organizer and a member of the community or I had to get involved in the church." Before the Alliance, Paul was a liberal lawyer. "The liberal tends to be selfless and takes into account other's needs to the exclusion of themselves or they tend to do that. The 'world as it is' would be much more honest if they would acknowledge their self interest and develop a relationship with others that serves both their's and one's own self interest." Paul shifted in his orientation to others when he spoke to a group of low income residents in the path of the Northeast Radial. He began to see that the problem of losing their homes was also his problem of having to pay for the road as a taxpayer. Paul is still an attorney, working in central Nebraska, but he also is organizing for the Great Plains Organizing Project.

The fact that the Lincoln Alliance dissolved was what helped David make a developmental shift in his growth. "It was out of the negatives that my primary learning occurred." He believed that for social action to be sustained over a long period of time it needs a "value system that provides a basis and context for critical reflection on what is happening." Therefore, what he learned "was that an intellectual awareness was not adequate." He began to see that he needed something beyond himself, "a transcendent resource in my own life that I could both relate to and be sustained by. The only way you can hang in and continue to care is to be sustained by some spiritual resources that transcend the immediate situation." The negatives of "seeing bright, energetic people with the best kind of noble motivations with good values getting discouraged and depressed" is what caused David to shift from the level of vision-logic into the transpersonal realms.

Community organizing for David is action in the public arena which forces one to go into critical reflection. "Whenever you're involved in action you're immediately put into a situation where you wonder, 'What am I doing here?' and "What's going to happen?'" These are significant kinds of questions that create changes that are quite different from the ordinary kinds of experiences people have. "Community is a very critical part of being able to maintain yourself; a community of people who can find some subsistence beyond itself." This is a developmental shift into the transpersonal, spiritual realms. David is a minister, has a law degree, and an honorary doctorate. He still is the minister of a large protestant church, one of the founding organizations of the Lincoln Alliance.

Findings

Esther and Morris were unique in that they did not transform to the same degree that the others did. They focused their drives and balanced an internal/external need they felt to contribute to society by participating in the Alliance. This is movement within the same level of development, not a movement from one level to another. Esther was president during the decline of the Alliance and Morris did not attend IAF training.

The others had a change in perspectives; that is, they expanded their consciousness through the learning of new thought patterns, emotional responses, interactive abilities. Naomi reduced the conflict she felt toward her inability to effect change by participating in a powerful collective of like-minded people. Her identity shifted from one of behind-the-scenes person to out-front leader and she experienced a "genetic shift" in all of her relationships. She differentiated her role as leader in social action, recognized the need to integrate such an organization with a diverse group of people, saw what was possible in collective action, and shifted in her cultural awareness of community.

Deborah had a cultural rational mind-shift where she integrated what she thought was reality with new information that caused a reality shift. Paul also had a cultural rational mind-shift where he recognized that his own self-interest was similar to those in poverty. He integrated his understanding of social change with active membership in the church where he could legitimately hold it accountable to the values it professed. David had a developmental shift that moved him from a rational, cognitive approach toward social change to the psychic transpersonal level which enabled him to balance himself in the midst of conflict in his world. This required him to transcend the thought-mind of vision-logic and enabled him to have a larger comprehension of the situation.

Whether the Lincoln Alliance was successful in meeting all of its goals is irrelevant for this study. The research shows that through the process of action and reflection in community organizing, these leaders shifted in their growth toward more differentiating, inclusive and more integrated ways of looking at the world. A strong plausibility structure was a key element in maintaining the new perspectives that were set up in their minds.

Implications for practice

Involvement in organizing promotes growth, movement within and between levels of development. This is primarily due to the nature of the process which involves action and reflection and the presence of a plausibility structure which supports differentiation and integration of new perspectives. An essential ingredient in the process is dialogue for digestion of the new perspectives.

Organizing promotes vision-logic, dialectical thinking or panoramic logic. It requires a realistic understanding of people's self interests and knowledge of the dynamics involved in a community. Organizing for democratic action promotes social and personal reconstruction of cultural reality. It promotes a collective, social consideration of the self in relationship to others and calls into question the victim self-images of people. It fights against rampant individualism in today's culture. It promotes critical thinking because the self is placed in situations that require critical reflection.

Sustaining community organizing efforts requires knowledge of the possible negatives and disappointments connected to social action. Encountering and entering into the negatives can be what is needed for continued movement toward maintaining balance in the equilibration process.

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LIFE TRANSITIONS AND TRIGGER EVENTS LEADING TO PARTICIPATION IN A VOLUNTEER LITERACY PROGRAM

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Abstract

Participants in a volunteer literacy program were sampled using a structured interview and a reading achievement test. The purpose was to attempt to determine their motivations for seeking entry into the literacy program. Findings were compared to those of Aslanian and Brickell in terms of life transitions and triggering events.

Seventy-six percent of those in this study described their motivations for seeking entry into the program in terms of life transitions and triggering events. Of this 76%, 55% reported economic and/or employment changes, 23% cited changes in family lives, and 23% cited changes in their health as reasons for seeking entry.

Other participants reported being urged by family members, having their participation mandated by social agencies, or trying this program as one in a series of efforts to get help with their reading problems.

Reading grade level equivalency gains over the tutoring period support the participants' reported motivations to improve reading proficiency.

LIFE TRANSITIONS AND TRIGGER EVENTS LEADING TO PARTICIPATION IN A VOLUNTEER LITERACY PROGRAM

This research examines the reported motivations of adult low-literates who seek entry into a volunteer tutoring literacy program. Aslanian and Brickell's (1980) constructs of life transitions and triggering events were used as a framework for identifying these reported motivations.

Significance of the Research

Those involved in adult literacy efforts are aware of the large numbers of adult illiterates and low-literates who do not seek assistance with their literacy problems. In many volunteer literacy programs trained tutors are anxious to begin working with adult students, but there are not enough adults seeking tutoring to utilize all available tutors. A major problem for practitioners is one of recruitment. How can these adults be reached in meaningful ways?

Aslanian and Brickell (1980) found that adults who are involved in life transitions and trigger events tend to seek learning experiences at the point in time when a trigger event such as divorce, a new job, being laid off from work or acute illness marks a life transition. Their research involved a sample of 1519 who were widely distributed by age, family annual income, employment status, occupation, marital status, race, gender, place of residence and others. If the findings of Aslanian and Brickell hold for adult illiterates and low-literates, there are implications for both volunteer literacy program recruitment efforts as well as program planning and instructional strategy selection and application.

Research Questions

Two major research questions were developed to guide the study, both of which included specific sub-questions which were more researchable than the larger more general questions.

A. What are the motivations reported by low-literate adults for entering a volunteer literacy program?
    1. To what extent do low-literate adults report life transitions and triggering events as reasons for seeking entry into a volunteer literacy program?
    2. What types of life transitions and triggering events are reported by these adults?
    3. What other reasons (motivations) do these adults give for seeking entry into a volunteer literacy program?

B. What are the levels of literacy of the adults in this study?
    1. What were the reading grade level equivalencies of the participants in the study at the point of entry into the tutoring program?
    2. What were the gains in reading grade level equivalency during participation in the tutoring program?

Setting for the Study

The setting for the study was a volunteer literacy program in a large urban/suburban county in a mid western metropolitan complex. Started in 1984, the stated primary missions of the program include providing literacy training to adults at or below the fifth grade reading level; raising community awareness of the problems of illiteracy; and establishing a firm base of support in the community. By early 1990, there were more than 550 teams of volunteer tutor/adult student pairs working together under the auspices of this program.

Methodology for the Study

The study was conducted during the period of August, 1989 to August, 1990 with a data collection period of August, 1989 through April, 1990.

Research Sample

With an interview procedure developed for data collection, a relatively small sample was selected. It was felt that a sample of 30 would be reflective of the population of all participants in this volunteer literacy program and permit a limited comparison of any sub groups within the sample. A series of criteria were applied in selecting the sample. These criteria follow.

A. Length of Time in the Program

Only those who had been in the program for six months or more were included. Six months was felt to be the minimum time needed for the Botel test to reflect any improvement in reading proficiency.

B. Exceptional Adults

Adults whose English proficiency was limited, those who were mentally and/or emotionally impaired, those who were auditorily and/or visually impaired, and those with severe neurological or muscular disorders were excluded from the sample.

C. Availability and Willingness to Participate

From the list of program participants who remained after the first two criteria were applied, participants were selected randomly. They were contacted by phone and asked to participate in the study. This procedure was continued until 30 agreed to participate.

Data Collection Procedures

Three sources of data were used, a structured interview, The Word Opposites Test of the Botel Reading Inventory (1962), and the adult student files which were maintained by the program staff.

A. Structured Interview

A protocol to guide the interviews was developed to assure that every participant was ask identical questions, and to limit the number and nature of the prompts provided. Four pilot interviews were conducted with adult students in the program. The protocol was slightly revised as a result of the interviewer's experiences in the pilot interviews.

B. Word Opposites Test

Since all of the adult students in the program are routinely administered the Word Opposites Test of the Botel Reading Inventory (1962) upon entry and at six month intervals, it was decided to use the results of this test as measures of reading proficiency. This test was reviewed separately by both Aaron (1965) and by Brown (1965) in the Sixth Mental Measurements Yearbook edited by Buros (1965). The following comments about the Word Opposites Test reflect the observations in these two reviews.

This test is designed to give an estimate of word comprehension at levels primer through senior high school. Raw scores are converted to grade level equivalencies according to percentages of correct matches of item words and their opposites. Unfortunately, the Botel Reading Inventory includes no information on test validity and reliability. However, Aaron believes that the actual experiences of teachers and reading specialists support the standards set forth for the test. A major strength of the test lies in its ease of administration. It can be taken quickly, and requires only a single form which includes both the test and spaces for responses. Scoring can also be done rapidly. Since this test was a regular part of the tutoring program, it was decided to report the results in this study.

C. Program Participant Files

These files contain demographic information about each participant, as well as a history of his or her tutoring experiences. Results of regular administration of the Word Opposites Test are recorded in these files. The files of the participants in the research sample were read carefully as one means of validation of information gained through interviews.

Following the series of criteria set for sample selection, program participants were first contacted by a person who was a well known adult student in the program. He explained the purposes of the study, what a participant would be required to do, and sought consent to participate. If an oral agreement was secured, an interview was scheduled to be held in the offices of the literacy program. Interviews were conducted in a private place, either an office, or a conference room. Extensive notes were taken by the researcher, and the interviews were not taped. It was felt the participants would be more comfortable and speak more freely in the absence of a tape recorder.

Informed consent was obtained at the beginning of the interview, and a signed consent form was obtained from each person in the sample.

The interviews averaged slightly over one hour. The participants were generally friendly and cooperative, with only two appearing to be cautious. Over all, the interviews went very smoothly and yielded a great deal of data.

Date Analysis

Data collected were of both qualitative and quantitative natures. Those data which yielded well to quantitative analysis are reported in the forms of frequency counts, measures of central tendency and general comparisons. Qualitative reporting takes the forms of quotations, expressions of attitudes and perceptions, and summaries of findings.

Findings

The findings are reported here in terms of the two general research questions.

A. What are the motivations low-literate adults report for entering a volunteer literacy program?

Aslanian and Brickell (1980) found that adults seek learning experiences when they are involved in life changes, and that there are specific triggering events which mark these transitions and cause adults to seek learning experiences. The participants in this study were asked to talk about changes in their lives which caused them to seek tutorial assistance through this program. Twenty-nine of the 30 participants were able to give specific reasons why they decided to enter the program, and why they entered when they did. Of these 29 who discussed their motivations for entering, 22 talked in terms of life changes (transitions) with specific events (triggers) while 7 described their motivations using other concepts. So for this study, 76% reported a life change as the reason for seeking a learning experience while Aslanian and Brickell found 83% citing life changes in their larger study. Twelve or 55% of those in this study reported life changes in the economic or employment life area while Aslanian and Brickell found 56% of their respondents cited changes in this life area. Five or 23% of the participants in this study described life changes in their families, compared to 16% in Aslanian and Brickell's study. In this study there were also 5 (23%) who cited changes in their health compared to 4% in the Aslanian and Brickell research. None of the participants in this study reported changes in the life areas of leisure, art, religion or citizenship as reasons for seeking entry.

Of the seven participants in this study who described reasons for entering the tutoring program other than life changes and events, three talked about being urged by family members and friends, two indicated that participation in a tutorial literacy program was one alternative offered them if they were to continue to receive social services, and two reported that this program was the most recent in a series of attempts to get help with their reading problems.

B. What are the levels of literacy of the adults in this study?

The number of months the participants were involved in tutoring ranged from 5 months to 35 months. The range in reading grade level equivalency at the point of entry into the program was from primer (0) to 5th. The range in reading grade level equivalency at the point of the latest six month administration of the Word Opposites Test was from 2nd to 8th. The range of gains in grade level equivalency was from 1 year to 5 years, with a mean gain of 2.1 years.

Discussion

The constructs of life transitions with triggering events do seem helpful in explaining and understanding why the sample of low-literate adults in this study sought help in improving their reading. While there were some differences in the percentages reported in this study and those reported by Aslanian and Brickell, the similarities are more striking than are the differences. Tutors who work with low-literate adults should be sensitive to those life changes and events. Instructional materials and tasks which can facilitate these transitions, and facilitate the adult's adjustment in a new life status might not only improve his or her reading proficiency and increase competency in life roles, but also improve self concept and self esteem.

In the interviews, nine participants described transitions in their lives they would like to make, but had not been successful. This is approximately 41% of those who were able to identify transitions and triggers as reasons for entering the program. One example of a desired transition came from a woman who was a house keeper in a hospital but wanted to be a licensed practical nurse. She felt her reading proficiency was inadequate to complete the training program. Another example came from a man who was denied the opportunity to re-enlist in the military because of his literacy level. While he had undergone a transition (soldier to civilian) he wanted to return to the soldier status. The notion of desired life transitions appears to be a major motivational factor among the low-literates in this sample, as supported by their perseverance in the literacy program and increased reading proficiency.

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How Judges Become Expert About Contemporary Issues

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The purpose of this study was to discover how judges become experts about contemporary issues facing the courts. A qualitative research design was utilized and data were gathered from in-depth interviews with thirteen selected judges, using a semi-structured interview guide. The collected information was analyzed using the constant comparative method.

Similarities of responses evolved into five major categories with elements describing four categories. Discovery addresses reasons why the judges pursued this issue. Action represents the stage at which an observable action took place with the issue. Learning highlights techniques and resources utilized by the judges to become expert about this contemporary issue. Reinforcement resulted from judges attempting to clarify or reinforce in their own minds that the procedures utilized with the issues were effective. Maintenance represents the "coasting" stages where judges are still involved with the issue but often the active part of acquiring information and/or dealing with the issue has gone into "automatic pilot".

Conclusions are these categories relate or hinge together to form a framework for understanding how judges transcend to the point of being considered an expert on a contemporary issue and all judges do not always move through the framework in the same sequence.

How Judges Become Expert About Contemporary Issues

Introduction

The impact of the judicial system on society is enormous as monumental decisions are decided by judges daily through the court system. In order that our court systems effectively serve the needs of the public, the judiciary must be knowledgeable about the current issues facing the courts. The need for more research in judicial education is indicated by: the lack of formal preparation training of the judiciary; minimal, if any, continuing judicial education requirements; lack of research in judicial education; minimal training institutions; feelings of inadequacy in learning techniques; and isolation problems expressed by the judiciary through the literature.

As within any profession, there are members who seem to excel. The question then can be asked, considering the apparent lack of judicial education resources, adult and professional educational research and literature to provide guided information and considering other update and educational problems addressed by the judiciary, how do judges become informed on a particular issue? The question of how a person becomes informed can be addressed to members of other professions; however, asking it of the judiciary is especially relevant. The judiciary does not have the same rigorous pre-training, admissions, or post-training standards as other professions.

Purpose of the Study

As noted in the introduction, there were no research studies or information located by this author in the literature that suggests how judges become expert. However, some judges notwithstanding some of the previously identified problems and situations, along with minimal training and lack of research, apparently do become proficient in dealing with situations concerning the judicial system. Therefore, the purpose of this study was to determine how judges become expert about contemporary issues facing the courts.

In order to address this question, traditional definitions of the terminology are offered to promote an understanding of the purpose of the study. According to Websters Third New International Dictionary of the English Language (1986) an "expert implies experience, knowledge, and achievement and usually recognition as an authority in the subject, art, or profession". The World Book Dictionary (1985) indicates that "expert implies having mastery or unusual ability as the result of experience in addition to training and practice." In order to expand on these definitions in relation to this study, an expert was defined as a judge who has mastery or unusual ability in dealing with the issue beyond the legal skills needed within the courtroom.

Based on the previously stated definitions and information presented about the judiciary, judges were considered experts on an issue when one of the following criteria were met: a) they were recognized as an authority on the issue, or b) they were identified as having mastery or unusual ability in dealing with the contemporary issue beyond the legal skills. A judge was not considered an expert if his or her judicial practice with the issue received recognition due to extraneous circumstances such as news media coverage.

A contemporary issue is a situation or current societal problem in which the judge, as well as most judges, did not have any formal training prior to the ascent to the bench. The contemporary judicial issues for the study were determined by twelve state judicial educators.

Methodology

Since the purpose of this study was to determine how judges become expert about contemporary issues facing the courts, a research design was required that explored and discovered this process. Because of the lack of research and information, the qualitative research technique was selected because it allowed the researcher to explore, discover, and capture the judges' knowledge and understanding concerning how they became expert.

The semi-structured interview technique was selected. This technique was most appropriate for this study on how judges become expert about issues facing the courts because the format could remain purposeful yet unstandardized, allowing the researcher to move forward or backward depending on the data being obtained at any given point in time. Also, the interviewing technique permitted the researcher to gather data in greater depth and to discover and gain insight into how judges become expert about issues. The researcher was able to discover new information and generate concepts, generalizations, hypotheses, or theories which might possibly be tested in a later study.

Thirteen judges, who were identified as experts on the previously identifed contemporary issues, were selected for the study. Each judge was interviewed using a semi-structured interview guide. The collected information was analyzed using the constant comparative method.

Research Results

Similarities of responses from the judges evolved into five major categories. The first category, discovery, addressed reasons why the judges pursued this issue. This category developed as the researcher identified triggering mechanisms, which occured that prompted the judge to take action with the issue. Another discovery in this category was the "fuel" or the personal impetus reason behind the triggering mechanism that prompted the judge to not only take action but to pursue the issue in greater depth than other issues. The triggering mechanism and personal impetus elements formed the basis for the judge to recognize and pursue a judicial need which he or she identified in the judicial system.

The second category, action, represents the stage at which an observable action took place with the issue. Two different types of action emerged within this category. The first action is named maverick representing new and creative approaches used by some judges. The second type is called traditional action identifying the approaches by judges who utilize actions generally accepted or followed by the judiciary. It is also at this stage where some judges are beginning to be recognized by others as experts. If the judge is considered a maverick, then he or she is often recognized as an expert by others, because of his or her new and often innovative approaches, to the issue. When the judge is recognized by others at the traditional action stage, it is usually because of his longevity in successfully dealing with the issue.

Learning, the third category, highlights techniques and resources utilized by the judges to become expert about this contemporary issue. Three strategies used were outside experts, reading, and continuing judicial education activites. Information gained in this category enabled the judges to gain a better understanding and expanded perception of the issue.

Reinforcement, the next major category, contains the elements of catalyst, confidence building and judicial peer input. This category resulted from judges attempting to clarify or reinforce in their own minds that the procedures utilized with the issues were effective or even that the judges were expert at this point. The judges served as catalysts for the issues through various methods. Their intentions were to see that programs were provided on the issue, implement a procedure to seek other judicial review of the issue, or provide the programs for other judges or for audiences outside the judiciary. Several judges served in the dual role as the catalyst or the actual implementator of the program or action. It was the result of the catalyst procedures, that the judges were reinforced by either judicial peers or outside sources as to their work with the issue. At this time some judges started expressing confidence, or even feeling "expert" in dealing with the issue. Even though the judges usually sought information from outside experts during the exploration stage of the issue, the judges often turned to their judicial colleages at this time for reinforcement on the issue. The reinforcement usually came in the form of feedback on a judicial decision, or more frequently, a program provided by the judge to other judges on the issue.

The final category, maintentance, represents the "coasting" stage of the model where the judge is still involved with the issue but often the active part of acquiring information and/or dealing with the issue has gone into "automatic pilot". This stage usually occurs after the judge has been recognized as an "expert" on the issue.

Summary

It appears that judges do participate in a synergestic triad in order to become experts. The three categories of this triad, action, learning, and reinforcement, all contribute to the judge becoming expert for two reasons. One, the judge actively participates in the issue throughout these categories. Also, in all these categories, the judges acquire information about the issues. As a result of the participation, the judges gain experience with the issue. In addition, it is through the various modes of participation, like internal actions with the courtroom sector or external actions such as serving on a commission; participation in the learning category such as continuing judicial education activities; or reinforcement where the judges serve as catalysts, that they gain the confidence to consider themselves experts or they become recognized by others as experts on the issues.

Discovery serves the role of "gate" to the synergism. Even though the judges acquire information in this category, the discovery category plays the important role of providing the "fuel" for the judges to enter the synergistic state on an issue. If judges do not encounter the triggering mechanism, feel the personal impetus, and then decide the judicial need, then they will not, in all probability, progress through the triad of categories and reach the same pinnacle of "expert status" as the judges did in this study.

Maintenance category also serves as the "gate" out of the synergistic stage. This is the stage where most of the judges are at this time in the study. They have left the most active part of dealing with and/or acquiring information about the issue. However, the gate can be opened and they can, and do, return to the triad of categories at times.

Implications

Conclusions to the study were that expert judges do engage in a pattern of behavior to become experts and that this information can be utilized by judges, planners of judicial educational programs, the legislative branch and as a model or guide for judges in their socialization process. The elements of the process identified by the expert judges for becoming expert about the contemporary issues can be used by prospective judges who are preparing to ascend to the bench. Veteran judges, who often face problems such as lack of release time for formal education time or the feeling of isolation in becoming more competent, can also use the information to become proficient in areas in which they feel deficient. Planners of judical education programs at various levels can use the information from the emerged categories to plan a wider range of formal and informal activities and procedures while utilizing more resources to actually meet the educational needs of judges. Establishing differences in approaches to acquiring competence on different issues can be used by legislators, those who influence the legislative process, and licensing or certification boards to acknowledge alternative and flexible approaches to current educational requirements.

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Please Note: Additional sources are available upon request.

THE CONTINUING PROFESSIONAL EDUCATION OF CORPORATE TECHNICAL PROFESSIONALS: REASONS, FORMATS, AND IMPLICATIONS

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Abstract

This study investigated employee reasons for participation in employer-originated and in self-originated continuing professional education activities and examined the formats of those activities as reported by corporate technical professionals in three career stages: entry-, mid-expertise, and high-expertise levels (determined by the professionals' corporate Hay Scale designations). Of the 143 questionnaires sent, 136 (95.1%) were completed. Results indicated that the order of importance of the five categories of reasons-for-CPE-participation changed throughout the three career stages studied. Professional Development was consistently ranked as the most important reason for CPE participation, Professional Reflection consistently the least, and the other three categories (Professional Service, Collegial Learning, and Personal Benefit/Job Security) changed in importance ranking with career stage. Significant differences ($p<0.05$) were found between the reason for participation in employer-originated and self-originated CPE. While the **number** of characteristic formats varied for each career stage, actually increasing as the professional matured technically, four learning formats were characteristic throughout the research matrix: 1) vendor visits, 2) interaction with peers, 3) professional journals, and 4) work-related trips.

The Continuing Professional Education of Corporate Technical Professionals: Reasons, Formats, and Implications

Statement of the Problem

Designing continuing professional education (CPE) for corporate professionals in technical areas such as engineering, chemistry, physics, and biochemistry often is accompanied by practitioners viewing the career-span as a monolithic construct. In addition, although it is readily acknowledged that adults learn from a variety of sources, those responsible for mandated CPE programs typically recognize only "formal" learning activities such as university courses as valid CPE. The overall result has been an absence of attention to the career-long developing CPE needs of corporate technical professionals and the diverse ways in which they are met.

Literature Background

Much of the focus of CPE for engineers and scientists is on maintaining a U.S. leadership role in various technological markets (Tribus, 1977; Garry, 1986; Abelson, 1987). In a study prepared by the Committee on Career-Long Education for Engineers and the National Academy of Engineering (1988), it was reported that, given the predicted decreasing enrollments in university baccalaureate programs in engineering, there will be insufficient numbers of new qualified engineers to meet the continuing competition in the international marketplace. To address this shortfall, investment in the post-college career-long education of technical professionals will be increasingly important and economically prudent (National Academy of Engineering, 1988; National Research Council, 1985). Thus, CPE is being treated increasingly as a societal concern, not only a profession-related concern, by professional association leaders, corporate administrators, and policy-makers. The drawback to this high expectation for CPE is that without any immediate gains in technological competition, many worthwhile CPE programs will be cast aside as in the search for some other "quick cure".

Jarvis warns that the increased interest in continuing professional education, as opposed to continuing professional learning, is an effort toward institutionalizing, and consequently controlling, the problem and any subsequent solutions (1989). This means that industrial middle managers and/or supervisors can control any changes inherent in work-related performance if workers are loaded with employer-originated educational activities, both on-the-job and off-the-job. Subsequently, employees will have lost any available time set aside for self-originated CPE.

Purpose of This Study

The purpose of this research study was 1) to compare the employee reasons for participation in employer-originated continuing professional education (EOCPE) and in self-originated continuing professional education (SOCPE) and 2) to examine actual learning activity formats as reported by corporate technical professionals in three career stages (entry-level mid- and high-expertise levels) determined by the professionals' Hay Scale designations. The study focused on the five major reasons or factors of continuing professional education participation identified by Grotelueschen (1985), Kenny, and Harnisch (1981): 1) Professional Improvement and

Development (maintaining/ improving knowledge, skills), 2) Collegial Learning and Interaction (interaction for knowledge and social purposes), 3) Professional Reflection (reflective concerns for the profession), 4) Professional Service (competency concerns and transfer of competency to clients), and 5) Personal Benefit and Job Security (likelihood of financial gain/ security and benefits to family, friends). These reasons were compared for each of three career stages (entry-level expertise, mid-level expertise, and high-level expertise). Characteristics of actual learning formats such as university courses, conferences, professional journal reading, etc. that have been utilized by the professionals in those career stages were also analyzed.

The **research questions** investigated in this study were: 1) To what extent do corporate technical professionals across three career stages differ in their reasons for participation in employer- and self-originated CPE? and 2) What are the characteristic learning formats reflecting the extent of actual participation in professional education activities for technical professionals at each of the three career stages?

Population of the Study

The study involved a corporate population rather than a sample of engineers, scientists, and technologists employed by a medium-sized consumer products company in the Midwestern United States. These technical professionals were engaged in primary job activities that reflected the spectrum of activities held by similar professionals nationwide.

Methodology

The research design had one independent variable, career stage, and two dependent variables: 1) reasons for CPE participation and 2) rate of participation in each of 18 CPE formats. The data were gathered using a mail survey which included both a) modified Participation Reasons Scale (PRS) instrument, developed by Grotelueschen, Kenny, and Harnisch for analyzing why professionals participate in continuing professional education, containing five categories of reasons for participation in employer- and self-originated CPE, and b) an instrument designed to assess the extent to which 18 learning formats were utilized in updating technical knowledge. Further data were gathered using follow-up interviews with randomly selected professionals and university engineering and science faculty and resulted in career stage "portraits". Both instruments and interview protocols were pilot-studied for reliability and validity using a group of 35 engineering/ research & development managers at the company under study.

Analysis employed non-parametric statistics because it could not be assumed that the population of corporate technical professionals followed a normal distribution or that the distribution of the population across the career stages was even. The Kruskal-Wallis One-Way Analysis of Variance test was used to determine population independence on the career stage variable. The Chi Square Test was used to analyze the distribution of reasons-for-participation responses in EOCPE and SOCPE. A final procedure for analyzing reasons for participation was a difference-of-means test used for comparing the differences in EOCPE and SOCPE responses in each of the 5 reasons categories.

The total of 143 accessible participants was categorized as follows: for the survey portion of the study - 37 Career Stage I, 49 Career Stage II, and 57 Career Stage III; and for the interview portion - 18 technical professionals representing each of the career stages under study, and 9 university engineering and science faculty responsible for the pre-professional preparation of the technical population. Interviewees were selected from the total accessible population using a combination of stratified random and quota selection (Goetz and LeCompte, 1984).

Findings

Of the 143 questionnaires sent, 136 (95.1%) were completed.

Reasons for CPE Participation

A rank ordering of the means of the Participation Reasons Scale (PRS) categories was determined for each career stage and for both EOCPE and SOCPE. The results, listed in Table 1, suggest a developmental progression through the career stages. Statistically significant (a = 0.05) differences were found using the Kruskal-Wallis and Chi-Square tests. However, these differences may be due to the job functions and responsibilities of the professionals within the company culture and not necessarily to longitudinal development of the individuals.

Table 1
RANK ORDER OF THE MEANS OF PRS CATEGORIES BY CAREER STAGE

	Reasons Category *					
Rank	Career Stage I		Career Stage II		Career Stage III	
Importance	EOCPE	SOCPE	EOCPE	SOCPE	EOCPE	SOCPE
Most	ProfDev	ProfDev	ProfDev	ProfDev	ProfDev	ProfDev
	BnftSec	BnftSec	ProfSer	ProfSer	ProfSer	ProfSer
	ProfSer	ProfSer	BnftSec	BnftSec	BnftSec	ColgInt
	ColgInt	ColgInt	ColgInt	ColgInt	ColgInt	BnftSec
Least	ProfRef	ProfRef	ProfRef	ProfRef	ProfRef	ProfRef

* ProfDev = Professional Improvement/Development; ColgInt = Collegial Learning/Interaction; ProfRef = Professional Reflection; ProfSer = Professional Service; and BnftSec = Personal Benefit/Job Security

Career stage "portraits" indicated that 1) Career Stage I professionals shared responsibility with their supervisors in originating CPE needs, 2) supervisor assistance became less pronounced for Career Stage II employees, and 3) supervisor assistance disappeared by the third career stage. In addition, those interviewed held varying views of who benefitted from their CPE participation. In fact, the number of beneficiaries increased as career stage advanced - ranging from members of the professionals' own departments to consumers of the company's products.

Difference in Means Between EOCPE and SOCPE

Significant differences (a = 0.05) in the means of the EOCPE and SOCPE reasons for participation categories were found in three of the five PRS categories: 1) Professional Improvement and Development, 2) Collegial Learning and Interaction, and 3) Professional Reflection. For nearly every comparison, the mean of each category of reasons for self-originated CPE (internal locus of control) was significantly higher than the mean of the reasons for employer-originated CPE (external locus of control), indicating that participation in CPE was considered to be more important when control of the CPE was with the professional. This is an important finding for those who feel that it is necessary to mandate or direct the CPE of professionals. It is interesting to note that the level of importance of Personal Benefit and Job Security reasons did not significantly shift.

Continuing Professional Education Learning Formats

The actual formats utilized by professionals at each career stage, as listed in Table 2, are not the expected university and extension courses but what could be called "quick information" formats, e.g. vendors, interaction with peers (meetings), professional journals, etc. The "quick information" formats used by the professionals would match the "trigger" for CPE participation, which was found from the interviews to be new project assignments.

Table 2

FORMATS OF EDUCATIONAL ACTIVITIES OF TECHNICAL PROFESSIONALS

Career Stage I	Career Stage II	Career Stage III	All
Vendor Visits	Interact/Peers	Interact/Peers	Interact/Peers
Interact/Peers	Vendor Visits	Prof Journals	Vendor Visits
Prof Journals	Prof Journals	Vendor Visits	Prof Journals
Company Seminars	Work Trips	Technical Books	CompanySeminar
Work Trips	Technical Books	Company Seminars	Work Trips
		Work Trips	Technical Book
		Interact/Experts	
		Mentoring	

In addition, from the interviews it was determined that the learning formats used most often by academic technical professionals were not the same as those used by corporate technical professionals, providing some mismatch between expectations and actual delivery in academic CPE. If, as Griffith (1985) suggested, only 0.05% of those involved in CPE have both content and adult education degrees, then industry and academia need to cooperate to better prepare those involved in technical CPE.

While most of the formats predicted by the university faculty were what Jarvis (1986) defines as "formal" learning formats, the majority of the formats actually utilized were what he defines as "informal" learning formats. The high degree of control over the origination of their need to participate in CPE expressed by members of all three career stages suggests that the informal learning formats may be appropriate, but it does not address the degree of discontent that was found to be associated with CPE participation.

Implications of the Findings

The very high response rate to this study (95.1%) enabled a population, rather than a sample, of technical professionals to be studied, affording a look at the innovators, pacesetters, middle majority, and even the laggards who often are absent from other studies because of their low participation rate in CPE (Houle, 1980). This study was also one of the first that compared technical professionals in a corporate setting. Several implications of the study that may be of interest to researchers and practitioners are:

One: The order of importance of reasons for CPE participation changed throughout the 3 career stages studied. As professionals matured technically, they generally rated professional needs as more important than personal benefit needs. The results of this study suggested that the highest career stage professionals attached less importance to CPE participation for reasons of personal benefit or job security than entry-level professionals. An awareness of the developing CPE needs of corporate technical professionals should be included in the planning and implementation of all CPE.

Two: On the whole, professionals assigned significantly more importance to professional needs categories when the educational activity was self-originated than when it was employer-originated. This is an important finding for policy makers who may view mandated CPE, either by legislatures, employers, or professional associations, as necessary for maintaining technical excellence (or competency) throughout a career.

Three: Although professional enhancement and service were among the most important reasons for CPE participation, other social and personal needs were valued. Practitioners need to be aware of the relative importance of these dimensions when planning and implementing CPE activities for professionals in different career stages.

Four: By narrowly defining educational formats to include only formal education activities (such as university courses, seminars, etc.), authors of technical CPE studies have concluded that personnel in the highest career stages are not maintaining or enhancing their professional knowledge/skills. This conclusion has often justified early retirement for older corporate technical professionals as a means of saving money and eliminating technical "deadweight" from the corporate structure. However, this study found that by defining CPE more broadly to include formal and informal learning formats, the highest career stage professionals participated in a wider variety of learning activities than entry-level or mid-expertise level personnel. Hence, what has been viewed in other studies as an educationally inactive group is, in actuality, the most active. As a result of these findings, practitioners responsible for the CPE of corporate technical professionals may find that their role has expanded from that of sole CPE provider (courses, seminars, in-house programs) to one that includes CPE brokerage, a role that interfaces with publishers, vendors, consultants, and others.

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EVALUATION STUDY
OF
NEW EMPLOYEE ORIENTATION PROGRAM

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ABSTRACT

A comprehensive evaluation of a new employee orientation program was conducted at a large metropolitan hospital. The complete study consisted of four parts: a review of the current evaluation methods, an analysis of previous evaluation results, observation and subjective critique, and a survey to determine the effects of the orientation on prior participants, particularly with regard to knowledge and attitudes. A number of criticisms and suggestions of previous and present practices were offered, with special attention paid to the use of appropriate adult education techniques. In this paper, the conceptual framework of the survey is discussed, as well as its conduct and results. Statistical analysis shows that while it appears the orientation has little effect on attitude development (with the possible exception of loyalty) it does appear the orientation significantly effects the knowledge level of participants with regard to essential employee programs and benefits ($T=3.49$, $p <.01$). An explanation of the results and suggestions for future study are offered.

INTRODUCTION

Background. Barnes Hospital, an employer of more than 3000 people, regularly conducts a one-day orientation program for new employees. During this session the new employees are provided information to help them become successful in their new roles. Many topics are covered, including, but not limited to, the organization's goals, employee benefits, safety, risk management, security and patient relations. Most new employees are encouraged to attend, but not all are required.

Although the program had been conducted for a number of years, little formal research had been done to validate the content of the program. The hospital staff was aggressively attempting to see if the program met its goals and objectives. A preliminary plan and schedule for a thorough evaluation was developed, a part of which proposed that an outside, objective researcher could make a significant contribution. This paper is a result of that work.

Objectives. After preliminary study, a plan was developed as to how this study could be most effective within the limited amount of time available. Four specific objectives were established.

1. The evaluation form currently being used by participants of the orientation would be reviewed by the researcher and appropriate criticisms and suggestions offered. A new evaluation form would be developed for use in the future.
2. Past evaluations completed by participants would be reviewed and summarized.
3. The actual orientation program would be observed and critiqued, particularly with regard to teaching techniques and possible improvements which might be made through better utilization of adult learning theory and practice.
4. A questionnaire would be designed and distributed to assess the success of the orientation.

The remainder of this paper focuses on the fourth objective, i.e., evaluating certain aspects of the success of the orientation program.

METHODOLOGY

Hypothesis. The goal of the survey was to determine specifically if there was a difference in the knowledge and attitudes of employees who attended the orientation as opposed to those employees who did not attend. Thus, the following hypothesis was tested: "There will be significant differences in the attitudes and knowledge of hospital employees who attend orientation and those who do not."

Background. In order for this evaluation to be effective, it was important to first answer a number of questions about the desired outcome of the evaluation, i.e., what were the goals of the program? According to Kirkpatrick (1976), evaluation should be approached from four separate, but reciprocal, perspectives:

1. Reaction. Do the employees like the program?
2. Learning. Is the desired content being learned?
3. Behavior. Is the desired behavior of new employees

being exhibited as a result of the program?

4. Results. Are tangible results being produced by the program in terms of reduced costs, decreased employee turnover, better performance, etc.?

These four basic perspectives were discussed and reviewed, and for the purposes of this study, only the second and third points (learning and behavior) were to be evaluated by the questionnaire.

As a means of evaluating reaction, evaluation forms already in use provided a fairly accurate measure. In fact, almost the entire focus of the existing evaluation form in use was participant reaction.

The fourth item, results, was discussed as a potential objective, but it was determined for two reasons that it would have been impractical to attempt to evaluate this within the scope of this study:

1. determination of criteria measures such as performance evaluation, tardiness, attendance records, and length of tenure would have been too difficult to obtain, and
2. the scope and time limitations of this study did not allow for adequate time to assess such data.

Assumptions. Indirectly, one could assume that if the desired learning and behavior was resultant, then favorable results could be presumed. Even though speculative, it was agreed that the Education and Training Department (ETD) would presume results based on this assumption.

Since learning and behavior were selected as objects of the study, the questionnaire aimed at determining what knowledge had been gained as a result of the orientation and what attitudes had resulted. The assumption was made that knowledge would reflect learning, and behavior would be affected to some degree by the attitudes expressed by participants.

The Instrument. The questionnaire consisted of sixteen questions. The first six were designed to assess employee attitudes with regard to six specific factors. They were:

1. Dedication (to the job)
2. Affiliation (with co-workers)
3. Service (to others)
4. Teamwork
5. Loyalty (to hospital)
6. Importance (self-worth)

Each employee was asked to rate their feeling with regard to each of the above factors on a Likert-type scale, giving them the option of selecting one of four choices, in each case expressing a different degree of negative or positive feeling.

The next ten questions were presented in a true-false format, and the first nine were aimed at determining each respondent's knowledge in nine specific areas selected from the orientation curriculum:

7. Hospital mission
8. Consumer relations
9. Employee benefits
10. Wage structure
11. Employee assistance program
12. Risk management
13. Safety
14. StayWell program
15. Infection control

The final item (16) provided for establishment of a control group (those who did not attend orientation - CG) and an experimental group (those who did attend - EG). This question was worded in the same true-false format to avoid making it conspicuously different than other questions, but essentially asked: "Did you attend orientation?".

The Sample. The questionnaire was sent to all "new hires" during a recent six month period -- a group of 305 employees. This method was selected because it was practical, and because it was thought employees from this group would be new enough that effects of the orientation would still be relevant, yet not employed so long that effects may have dissipated as a factor of time. This also allowed for less time for interference from contaminating variables.

RESULTS

The initial mailing resulted in responses from 113 participants. This 37% response was satisfactory, resulting in a balanced response of 51 from the CG and 62 from the EG.

The data from the questionnaire was analyzed as two separate surveys. Questions 1-6 (assessing attitudes) was tested separately from questions 7-15 (testing knowledge). A T-test for the significance of difference between two means was used to test each attitude item separately, and to test the results of the total compilation of the items dealing with knowledge. Results on both the CG and EG with regard to attitudes are summarized in TABLE 1, along with the statistical evaluation data.

TABLE 1
MEAN SCORES ON ATTITUDE SURVEY

Attitude	Control Group	Experimental Group	T-Value	Probability
Dedication	2.88	2.82	-1.00	p >.10
Affiliation	3.65	3.69	.06	p >.10
Service	3.10	3.10	0	p >.10
Teamwork	2.92	2.90	.03	p >.10
Loyalty	2.73	2.89	+1.77	p <.10 p >.05
Importance	3.21	3.21	0	p >.10

Possible scores ranged from 1.0 to 4.0. The higher scores represent a more positive attitude toward each particular trait.

There was no significant difference between the CG and the EG in five of the six attitude areas. There was some indication that a difference existed between the groups with regard to loyalty to the hospital and its mission (T=1.77, p <.10, p >.05). This difference was reasonably significant, and reflected the probability that the orientation has greater impact on "loyalty" than on other attitudes surveyed.

Based on what was considered to be an adequately sized sample, no significant differences in the other attitudes surveyed could be attributed to attendance at the orientation.

There was, however, a significant difference in the two groups with regard to knowledge. These results are summarized in TABLE 2.

TABLE 2
MEAN SCORES ON KNOWLEDGE SURVEY

	Control Group	Experimental Group	T-Value	Probability
Score	7.31	7.84	3.49	p <.01 df=111

DISCUSSION

Attitudes. There are a number of possible reasons why no differences were detected in most of the attitudes expressed by the two groups. While it would be purely speculative to attempt to isolate any one particular explanation based on the data, the following alternatives are feasible:

1. The orientation program may have little or no effect on attitudes of new employees.
2. The orientation may have an initial impact on attitudes, but it dissipates in a relatively short period of time and was not significant by the time the participants were surveyed.
3. The questions and/or instrument used was not effective in sampling attitudes. While the questionnaire appears to have face and content validity, it is an obvious limitation of this study that the instrument was not pretested for true validity.
4. The employees surveyed were from many different departments, not all of which were required to attend the orientation. It is likely that attitudes varied in different departments, and the possibility exists that the CG might have been heavily influenced by a department or two with especially positive attitudes, offsetting any positive gains in the EG.
5. Attitudes are notoriously subject to rapid change, and the timing of the survey could have been a factor.

As a footnote to the above it should be emphasized that attitudes are traditionally difficult to assess, and comprise one of the most unmanageable and volatile areas of employee management and control. It may also be too much to expect that attitudes can be significantly changed during a short-term orientation session.

Knowledge. It is obvious from the results that a significant difference existed between the two groups in the level of knowledge concerning hospital programs and skills. While the actual scores appear to be fairly similar, an overall difference of almost 7% proved to be highly significant when subjected to a T-test (T=3.49, p <.01). It appeared the group attending the orientation was more knowledgeable about hospital programs, benefits, structure, safety, etc., for up to several months after attendance.

The fact that this difference existed several months later was significant, when consideration is given to the long exposure to other programs, sources of information, gossip, etc., which could have been an influence during this interim period. It can be assumed with a high degree of certainty that the orientation was having a positive, significant effect on the knowledge desired in new employees.

SUGGESTIONS FOR FUTURE STUDY

The significant difference between the groups with regard to the level of loyalty to the hospital mission is important. The fact that this difference existed and could be attributed to the orientation program was in itself reason to continue the program, regardless of other areas of concern. If it could somehow be determined what it is about the session that makes such a difference, this alone would be important. Future studies might attempt to determine why this particular attitude is more strongly effected than the others.

A new evaluation form was developed. If it is used in the future, the results should be regularly compiled and compared over a significant period of time. They will offer trends and possible areas of inquiry. The questionnaire which formed the basis for the major part of this study should also be readministered in the future.

GENERAL CONCLUSIONS

There are a number of areas needing improvement which this study called to attention, and these should be addressed by the ETD. The types of evaluation instruments used should be altered considerably, and in some cases, used differently.

It is fair to conclude that the orientation is a successful effort on behalf of the ETD. It is well-received by the participants, generally heightens their level of knowledge about hospital programs and benefits, educates them in critical areas of on-the-job performance, and has some effect on the amount of loyalty expressed by employees towards the hospital mission.

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